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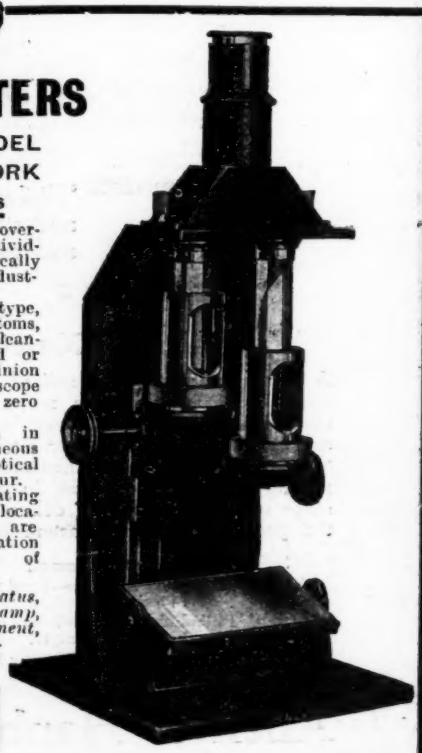

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Remarks
ON
THE MEDICAL ASPECTS OF HAEMATURIA.*

BY
SIR THOMAS HORDER, M.D., F.R.C.P.,
PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL.

THE title of this discussion is rather a misnomer, for it suggests that cases presenting this very common and important symptom can be divided into two classes: medical and surgical. I suggest that the condition of haematuria demonstrates—what I take it we all believe—that, in the first instance at all events, all patients are both potentially medical and surgical: that is to say, they are suffering from pathological conditions, and we do not know at first—sometimes we do not know at last—whether these conditions lie chiefly in the province of the surgeon or of the physician. Several types of haematuria in their causation interest mutually both sides of our work—nephrolithiasis, for example; tuberculosis; urinary tract infection; neoplasm: all of these are conditions which frequently give rise to haematuria, and they all have both medical and surgical bearings.

Still, I think it is clear what is intended by the title, and I do not propose to deal with certain forms of haematuria which are essentially surgical in their aspects. Trauma, of course, is outside my sphere; so also is neoplasm when it is operable; also calculus of the gross kind giving definite indications for nephrotomy or nephrectomy; again, tuberculosis when the primary condition is renal, as it nearly always is, and radical measures can be employed by way of excision, partial or complete. Further, certain anatomical defects in the vessels and in the position of the organ, when these are diagnosed as being the cause of the haematuria, are outside the sphere of the physician. But I would like to stress the point that haematuria is a symptom which in many cases calls for an approach from both the medical and the surgical aspect in investigation, and very also often in treatment.

As regards definition, I take it that the word as we use it has no reference to microscopic amounts of blood or even to specimens of smoky urine, but to the grosser condition in which blood is present to the naked eye as blood, and at some periods in considerable amount.

I thought it might be useful, as giving me certain types of cases to discuss, if I took a list of cases of haematuria of the kind I have just mentioned—gross, frank haemorrhage—in patients, male and female, who have been in my medical wards, during the past five years, and have therefore been under my own observation, some of them jointly with my colleague Dr. Gow. I have had the cases tabulated—fifty-four in all—in which during the last five years haematuria has been observed either as the main symptom or as a very important and striking symptom. The final diagnoses with regard to these patients were as follow: out of the fifty-four cases, twenty were diagnosed as acute nephritis—nearly one-half the cases, therefore, during these five years have been of this nature—seven were cases of chronic nephritis, four of renal calculus, four of infective endocarditis, three of urinary tract infection, two were suffering from mitral stenosis, and presumably therefore had renal infarction, two were cases of purpura, and two were thought to be prostatic in their origin. There was one of each of the following: Addisonian anaemia, an interesting case of polycythaemia (Vaquez's disease), haematuria following on administration of hexamine in the treatment of encephalitis, and haematuria thought to be due to intensive salicylate treatment. There were also five unclassified cases, and of these five cases I think two come into that ill defined group of haematurias which have been called "essential haematuria."

* The opening paper of a discussion in the Urological Section of the Royal Society of Medicine on April 28th, 1927. The remainder of the discussion is printed at page 1006.

Acute Nephritis.

I will briefly comment upon each type of case in which haematuria is a common feature. Acute nephritis is obviously by far the commonest disease in which patients come to the physician with haematuria at the present day. We are still without accurate knowledge, however, as to which sort of infection is most likely to produce a haemorrhagic type of urine. It used to be thought that scarlatinal nephritis was highly haemorrhagic in its character. I do not know that that has been borne out by later experience. Then it has been suggested that pneumococcal infections are highly haemorrhagic. I cannot say from my own experience that I have confirmed that statement—indeed, as I said, I am unable to say from my own experience in which infection—whether with streptococcus or pneumococcus or *Staphylococcus aureus*, or other organism—a bleeding tendency is more likely to be produced; with regard to this point I should like to know the experience of others. Exacerbations in acute nephritis with haematuria are rather a striking feature, and come within the familiar experience of the physician. To what are these exacerbations due? Are they due to re-infection or re-intoxication of the kidney from the presumed focus, or are they due to some changes taking place in the kidney and not necessarily due to haematogenous influences? I used to hope—and I hope still—that upon watching these cases of acute nephritis very carefully, making a re-survey every time these crises occur, we might obtain a guide in tracking down the cause of the nephritis, but I have failed in this. These crises, which, by the way, are generally pyrexial and associated with a little exacerbation of the toxic symptoms—with rather more headache and drowsiness—gradually fade out of the picture, and with patience and persistence in the old-fashioned methods of treatment—namely, rest, with vicarious functioning of the skin and of the bowel—most of the cases get well. But I should like to know whether anyone has some evidence or experience showing what is the exact mechanism of these crises.

Another question which not infrequently arises in cases of acute nephritis is, When should septic tonsils be removed, assuming that they are a feature of the case and the practitioner is led to the conviction that they are associated causatively with the disease? I think we used to wait longer than we are inclined to wait now. I do not wait very long, even in the presence of haematuria. The pathogenesis of the case of acute nephritis in which there is no faucial or other recognized source of infection, or site of focal sepsis, is very disappointing. Again and again one finds these cases admitted to hospital—children, the majority of them—and the past history, the present condition, and a thorough survey of the whole case leave a complete blank as to the nature of the infection. There are all sorts of theories, but none of them are borne out by the bacteriological or other evidence.

Chronic Nephritis.

With regard to chronic nephritis, I do not consider I have anything to add to the accepted views, that there are two conditions in which bleeding may occur. The first is chronic parenchymatous nephritis—that is to say, tubal nephritis with considerable oedema, a tendency to chronic uraemic symptoms and cardio-vascular changes which are not very marked. It seems to take very little in the way of subinfection in a patient subject to latent parenchymatous nephritis to produce haematuria. The second type is the so-called chronic interstitial nephritis, granular kidney, or contracted kidney, with high blood pressures and marked cardio-vascular changes. Patients with this condition are subject from time to time to rather frank and definite bouts of haematuria, and these are not associated with subinfection. These facts are borne out by a study of the cases which have occurred in my wards. The term "renal epistaxis" has been rather diverted from Gull's original meaning to a group of cases called "essential haematuria," to which I shall make reference later. There is no reason why the term "renal epistaxis" should not be applied to a form of kidney bleeding which is not associated with marked vascular changes, but that was not the original meaning of the expression.

Some authorities state that if a chronic nephritis is syphilitic in origin bleeding is more prone to occur. To judge by the positive Wassermann reaction in cases of chronic nephritis, if that can be taken as a guide to cases which are syphilitic, there was, in the four cases of which I have notes, no special tendency to bleeding. Nevertheless, it is sometimes said that syphilitic patients tend to a haemorrhagic type of nephritis if the kidney is affected.

Renal Calculus.

With regard to renal calculus, I wonder sometimes if we ought to diagnose renal calculus in the absence of haematuria, assuming that radiological findings are negative. If they are negative and haematuria has not occurred, I think it is questionable whether pain—even pain that seems to be strikingly like renal colic—should be regarded as the result of calculus. In the four cases in this series that I have had under observation, all showed good evidence, either by radioscopy or by nephrotomy undertaken for the purpose of clearing up the diagnosis; but when I come to the cases that are unclassified it is obvious that some may have been due to calculus. I have here a caution to enter, which one of my cases taught me. I overlooked a large calculus in the kidney for a considerable time in the case of a woman who had a gross coliform infection with symptoms of dysuria and with haematuria. She had no renal pain, her kidney could not be felt, and, as it happened, she was not *x*-rayed for a considerable time. The trouble was not a new growth, but a kidney which had been for years disorganized by the presence of a large calculus. It is a thing to beware of in a case in which infection is very easily demonstrable, and is such as to give rise to haematuria, that calculus may be present as well as the infection.

Acute Infections of the Urinary Tract.

That brings me to acute infection of the urinary tract—another group of cases common to both physicians and surgeons. In one of these cases there was a high temperature—104° F.—dysuria, and very copious bleeding. I think that in this country we are aware of the frequency, or at all events the definiteness, of haematuria as an early sign—perhaps the first sign—of coliform infection of the urinary tract; but, all the same, I wonder how many such cases are still thought to be tuberculous. If epididymitis occur, and it sometimes does, that tends to turn the thoughts still more in the direction of tuberculosis. In one of these cases there was a papilloma of the bladder in addition to the infection—a very deceptive case. The woman had had chronic cholecystitis for some time before she came under observation at St. Bartholomew's Hospital. She had haematuria and a urinary tract infection that was quite marked; but Mr. Ball demonstrated by cystoscopic examination that in spite of all this there was a definite papillomatous condition of the bladder, in a small area actually involving the right ureter.

Like the case of calculus already mentioned, here is another possible source of haemorrhage to bear in mind in cases of infection. This reminds me that although I have not a case amongst this series, I have in private seen a case, and have been partly responsible for the demonstration after nephrectomy, of papilloma of the renal pelvis; so that one should be on the look out for the double cause of haemorrhage—papilloma in the pelvis of the kidney or in the bladder, plus the coliform or other infection of the urinary tract.

Prostate.

Two of my cases were labelled prostatic. The patients were men aged respectively 64 and 74 years, and the diagnosis was not entirely on my responsibility. A surgical colleague agreed that the probable cause of the haemorrhage was the prostate—not malignant—rather soft in one case, and with an unusually large intravesical projection. One of these patients—the man aged 64—had a systolic pressure of 100 and a diastolic pressure of 90, so that possibly the hyperpiesis may have increased the tendency to bleeding.

Haematuria Associated with Heart Disease.

I come now to a more definitely medical class of case—haematuria in association with heart disease. There are three forms of heart disease illustrated in my group. The first is septic endocarditis. As I said at the beginning, I am not concerned with the discovery of a few red blood corpuscles in the urine. That is very important, as we all know, in the diagnosis of septic endocarditis—a very early symptom and a very constant symptom, and one which calls perhaps for daily microscopical examination of the urine over a period of a week or ten days. The pathological condition underlying it is well known, and has been described by Gaskell and others. I am not, however, referring to that, but to frank haematuria, the result of embolism. Sometimes the haematuria is unusually prolonged, lasting for weeks, because the embolus is a septic embolus and no doubt sets up a septic focus in the kidney. The condition is usually painless. But in one of my cases of infective endocarditis—a girl of 18—the patient suffered great pain. Her pain was so severe that I thought for some time there must be some other feature than septic infarction. She complained bitterly of the pain, and once or twice it was so great as to require narcotics. But when she died in hospital of cerebral embolism there was nothing found *post mortem* to cause this pain except the renal infarction.

The second form of heart disease in which haematuria occurs is mitral stenosis. There again the cause is renal infarction. In addition to septic endocarditis and mitral stenosis, there is dilated heart. Patients with chronic cardiac dilatation and chronic renal congestion sometimes have quite a large amount of blood in the urine.

Haematuria Associated with Blood Disorders.

I now come to certain blood states. In this series were two cases of purpura, both of them of Henoch's type. They were children, one of whom is still under observation in the hospital, and has been for a considerable time—three months—and is still bleeding. He is a small boy aged 14, whose illness began ten days before he came to hospital, a few days after eating skate. He vomited and had a rash; a very diffuse petechial eruption was present over the arms and legs, with a few spots on the abdomen; he was very listless. On admission his abdomen was retracted, tender, and he had a little pyrexia. At this time there was no blood in his urine, though a little albumin. He gave a history of having had severe abdominal pain on two occasions preceding this, but there was no history of bleeding. He was put on salicylates when admitted on December 27th, 1926. On January 17th, 1927, for the first time, there was a considerable amount of blood in the urine. On the strength of what one knew to be a fact—namely, that salicylates occasionally produce haematuria, the salicylates were stopped, but the haematuria persisted. He also developed oedema of the hands and forearms. The relation of purpura to haematuria is very complex. The kidney may bleed as an expression of the purpuric state; the toxic element causing the purpura may cause the kidney to bleed. But haemorrhages into the kidney themselves cause renal changes very closely allied to, if not identical with, nephritis, so that it is sometimes very difficult to say what is the sequence of events. This boy had large tonsils which it was thought were septic. In another case of Henoch's purpura the patient had three attacks of haematuria with abdominal pain, and then the condition seemed to clear up.

The case of polycythaemia (Vaquez's disease) which occurred in this series was very interesting. It was that of a woman who had been under observation several times in St. Bartholomew's Hospital and in private—a very typical case of the disease. She had had retinal haemorrhages. She also had an arterial block, I thought, in the artery to the left big toe, where there was commencing gangrene which necessitated amputation. Three months after this amputation of the left big toe she was sea-bathing at Eastbourne, and this was followed twelve hours afterwards by an attack of haematuria which persisted for six weeks, indeed up to the time of her death. It was a very intractable haematuria. The loss of blood was so considerable

as to reduce what had been a polycythaemia to figures which were just above those of a normal blood count. Four years before this event Dr. George Graham helped me in giving her continuous inhalations of oxygen. We demonstrated that the blood state of these patients is not improved by this measure.

Haematuria due to Hexamine.

In this series there is only one case of hexamine haematuria. I think there was no doubt about the causation. It was a case of acute encephalitis. A *post-mortem* examination was made eventually. The patient had been given only a moderate dose—20 grains every six hours—and at the end of the third day there was a profuse haematuria.

Unclassified Cases.

There were five unclassified cases, and I have already said that I feel sure that one or perhaps two of them would be put down as "essential haematuria" by those who consider that there is a group of cases to which we might give that provisional label.

One of these unclassified cases was a patient with aneurysm of the thoracic aorta; she had a profuse haematuria four days before death. The second of the unclassified cases might possibly be regarded as a case of calculus or nephrolithiasis. Then there was the case of a boy of 18 whom Mr. Ogier Ward sent to me from St. Peter's. I failed to make a diagnosis, but Mr. Ball was able to say that the blood came from one kidney only, and not from both. We know that in some of these cases of haematuria without obvious cause it is one side only that bleeds. That is no guarantee, however, that if nephrectomy is performed on that kidney the other one may not start a similar condition.

But perhaps the most typical case of what is termed "essential haematuria" was that of a man of 33 (looking up the literature I find that the cases coming into this loose group of haematurias are generally between 20 and 40 years of age), a cycle maker, who, in 1921, passed blood in his urine. He was examined with the cystoscope without anything abnormal being found. In November of that year he had a certain dull, not acute, pain, but nothing was done, because again nothing further was found. In January, 1922, he had a short attack of haematuria with no other symptoms. When he presented himself at the hospital a third time the left kidney was explored, but again with negative findings. He bled a little in February, 1922, and then nothing happened until he came under observation at St. Bartholomew's Hospital in March, 1923. There was no event in his past history or present condition to suggest any reason for this tendency to bleed. Radiology was quite negative, he had no dysuria, there were no signs of arterial changes, no hyperpiesis, no albumin or mucus in his urine. Conveniently for our purpose, he had an attack of haematuria while thus under observation, but the examination of the urine showed merely that there was a good deal of blood, a few blood casts, but no other casts, and the condition cleared up rather quickly; within a week his urine was normal again. I do not know what has happened to him since, but that is what I regard as a type of case which goes by the name of "essential haematuria."

It is easy to say that this is only a group of cases in which we do not know the cause of the haematuria, but it is a striking fact that in some patients bleeding from the kidneys occurs somewhat easily and without obvious cause. The matter has been written about a good deal, not much in this country, although Hale-White[1] has published a paper on it.

I have seen one case of this type in private. The bleeding was so profuse that everybody was alarmed, and said that something must be done; but everything had been done except nephrectomy, and eventually that was done. I failed completely to find anything wrong with the excised kidney, and I was particularly keen on one or two points which had been brought to my attention: one was the study of the pelvis in view of the possibility of minute papillomata, and the other was the so-called naevoid condition in the kidney substance itself.

[1] *Quart. Journ. Med.*, 1910-11, iv, 509.

Hale-White says of these cases that there is no satisfactory explanation; he uses the term "renal epistaxis" for them, and comes to the conclusion that there are two factors, one an undue ease of bleeding from the kidney and the other some toxic state at present unknown.

In my list there does not happen to be an instance, curiously enough, of tuberculosis, or of drugs other than hexamine. The condition has been brought on by use of carbolic ointments and lotions, and there is our familiar friend rhubarb, to which some patients are susceptible. I have also no instance of bilharzia haematuria. I thought, however, it might be useful to take actual cases as a basis for these rather discursive remarks.

An Address

ON

OBSERVATION, CO-ORDINATION OF KNOWLEDGE, AND JUDGEMENT.

ILLUSTRATED BY THE CARDIO-ARTERIAL SYSTEM.*

BY

WILLIAM RUSSELL, M.D., LL.D., F.R.C.P.ED.,

EMERITUS PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY; CONSULTING PHYSICIAN, ROYAL INFIRMARY, EDINBURGH.

WHEN the subject of the address you invited me to give had been settled, I decided, after consideration, that the cardio-arterial system would afford all the illustration my theme required. I was strengthened in this decision by some sentences in one of the Gifford Lectures, which Professor J. S. Haldane of Oxford is delivering at Glasgow University. He is reported as saying, "From its beginnings the mechanistic theory of life was embarked on a hopeless task." "What physiology was progressively revealing was the detail of co-ordinated physiological activity." These quotations are applicable to the system we are to consider. Last century we heard much about the heart as a pump, and the arteries as pipes. I propose to look at them as the co-ordinated system of a *living* pump and *live* tubes, which alter their lumen under a variety of influences, and thereby affect the flow of blood through them.

CO-ORDINATION OF HEART AND ARTERIES.

Beginning with the heart, I ask your attention to the case of a lady who came to Edinburgh a short time ago to consult me.

CASE I.—*Weak Left Ventricle: Constriction of Arteries.*

The patient was a woman, aged 44, the mother of two or three children; she told me that for years she had had a leak at one of her valves. The pulse was 120, regular, small, and cord-like; the brachial artery was in a similar state. There was pulsation between the left sternal edge and the vertical mammary line; the left border of the heart by percussion was beyond that line; the right border was two inches to the right of the sternal edge; the veins above the right clavicle were greatly distended, and showed a ventricular systolic wave. On auscultation at the apex the first sound was faint and impure. Over the area of pulsation and over the adjoining sternum there was a loud blowing systolic murmur. The pulsation was not "a diffuse apex beat," but was caused by, and the murmur was heard over, the right ventricle. The murmur was therefore tricuspid in origin. The brachial pressure given by the sphygmometer was 130 mm. These observations, co-ordinated with our anatomical and pathological knowledge, showed that the left ventricle was seriously disabled; that the right chambers of the heart and the veins in the neck were distended with blood; that the safety-valve action of the tricuspid had come into play; and that the right ventricle was strong enough to produce a loud murmur as blood was driven back from ventricle to auricle. The pulse rate was 120, the brachial and radial arteries were small and cord-like.

When we have to deal with a weak left ventricle it means that the ventricle does not and cannot empty itself. The contractions may increase in number, but each contraction only projects a fraction of the ventricular blood into the aorta; there is, to use Professor MacWilliam's words, "defective cardiac output." The dogma of the

* An address delivered to the Royal Medical Society of Edinburgh.

physiologist is that as a consequence of defective output vaso-constriction occurs, "which tends to keep up aortic pressure." This doctrine of keeping up aortic pressure does not appeal to our clinical judgement when the power of the left ventricle is much lowered. Let me present another view, one which may appeal to clinicians. The aorta and its primary branches constitute a blood cistern, which is kept full by the contraction of the ventricle lifting the weight on the aortic cusps and emptying its contents into the cistern. It must be realized that the pump, which keeps the cistern full, works from below and at a great disadvantage when enfeebled. The cistern, the fullness of which is essential to life, would undoubtedly rapidly empty did the outlets from the cistern retain their normal size; but they become constricted by virtue of possessing a living and active muscular coat, and the fullness of the cistern is assured—up to a point. I submit that this autonomous co-ordination of left ventricle output and arterial constriction is one of the most beautiful arrangements in the body. This is precisely what happened to the patient—namely, a damaged and weakened pump, and a constriction of the arteries easily recognized by the educated finger, yet her so-called blood pressure was 130 mm. Under treatment matters improved. The distension and pulsation in the veins disappeared, the tricuspid murmur ceased, at the apex a loud blowing systolic murmur appeared, the pulse fell to 70, the arteries were twice as large and had lost their cord-like character, and the sphygmometer reading had fallen from 130 to 105 mm. The left heart had regained power, was shooting more blood into the aortic cistern, and the arteries relaxed in virtue of their autonomous co-ordination with cardiac output. The pulse indicated the free outflow from the cistern, and I ask the reader to note that the sphygmometer pressure fell 25 mm.; and we are asked to believe that these records are blood pressure, and indicate heart power.

FIG. 1.—Contracted Brachial Artery.

I direct your attention to Fig. 1, which represents a contracted brachial artery; and to Fig. 2, which is a bit of the same artery relaxed (the *post-mortem* appearance of a normal brachial artery). Fig. 1 represents the tightened up artery present in the patient I have spoken of. That that contracted, hypertonic muscular tube, with its thickened wall and much lessened lumen, offers no more resistance to the pressure of the armlet than the artery of Fig. 2, to which, of course, has to be added a normal living degree of tonicity, is a strange belief, and seems to have sprung from the traditional doctrine of the maintenance of aortic pressure even when the left ventricle had lost a large part of its power. Years ago the late Dr. Janeway, in conjunction with Park, experimenting in America with the artery of a bullock, the size of a human artery, came to the conclusion that when hypertonically contracted it required over 60 mm. of pressure to occlude its lumen.

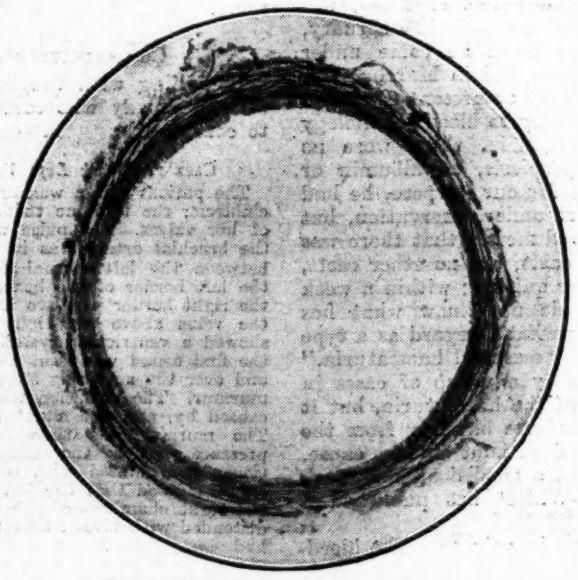

FIG. 2.—Same Artery as Fig. 1 relaxed.

HYPERMYOTONIA IN UNTHICKENED ARTERIES.

I now ask your attention to further clinical manifestations of hypermyotonia in unthickened arteries.

CASE II.—*Hypermyotonia due to Acidosis.*

A man had consulted me when his pressure was 120 mm. Some months later I saw him in the country. He was suffering from insomnia and air hunger; the heart action was irregular, and the arteries were tightened; the sphygmometer pressure was 160 mm. He was given sodium bicarbonate in considerable quantity, and 20 drops of paraldehyde instead of his usual hypnotic. When I saw him the following morning the air hunger was gone, he had slept well, and the pressure had fallen to 135 mm. I suggested that the alkali might be continued as the pressure would probably come down 10 to 15 mm. more. This was clearly a case of hypermyotonia due to acidosis.

CASE III.—*Influence of Emotion on Blood Pressure.*

A man consulted me several times from the end of 1922 into the early months of 1923. The symptoms described to me clearly indicated angina pectoris. The arteries were not thickened, the pulse was soft and regular, the heart sounds were poor. The brachial pressure was about 135 mm.—a normal pressure for over 60 years of age with soft arteries. There was little improvement in the symptoms as I heard them. In April he came into my room after walking some two to three hundred yards from the railway station. His face was pale, he was evidently distressed, he had precordial pain, and he had had to stand still two or three times before he reached my house. His pressure was 158 mm., and his vessels were tightened up. This was clearly the kind of thing he had been describing to me but which I had not seen. He went into a nursing home, where, with rest and some simple treatment, the pressure stabilized to 120 mm. A day or two before he left the home he was sitting up in bed, and offered to show me building plans in which he knew I was interested. This he did, explaining them very clearly and in detail. When he had finished he complained of precordial pain: the pulse was tightened up, and the pressure, which had been 120 mm. before this effort, had risen to 150 mm. Here was an illustration of mental and some emotional stimulation leading to hypertonic arterial constriction and acting back on a myocardium with little reserve of power. I advised him to give up all his country activities, and to confine himself to office and administrative duties. He was an abstainer from alcohol and tobacco. His diet was regulated, a mild laxative was used, and a myocardial tonic taken. He was to avoid everything which threatened to bring on an attack. He has followed out these directions for nearly three years, and has been able to do a great deal of most useful work; but he has still to walk slowly on level ground, and when faced by a slight incline still more leisurely.

These three cases illustrate three causes of arterial constriction in persons with unthickened arteries: (1) lowered cardiac output; (2) blood composition; (3) nervous or emotional influence. In all, when the hypertonia or constriction passed or was overcome, and the left heart recovered, the readings fell; and we are asked to regard them all as blood pressure only.

HYPERMYOTONIA IN SCLEROSED ARTERIES.

Sclerosed arteries are common. Their characteristics are investigated most easily by examining the lower part of the brachial artery, where it is often superficial and its pulsation visible. The finger shows it to be hard and thickened, and often tortuous. The degree of sclerosis, of course, varies in different persons; a tightened up, and therefore hard, normal artery must not be confused with sclerosis.

In Fig. 2 the *post-mortem* thickness of a normal brachial artery is shown; but Figs. 3 and 4 represent advanced sclerosis. It will be noted that the thickening is due entirely to the thickening of the middle coat—that is, the muscular coat. This is the kind of artery which, during life, may be felt as hard as a pipe shank; and it was looked upon as a rigid tube. As to its resistance to the pressure of the finger, there was never any doubt until physicians were led away by the claims of the sphygmomanometer, or, as it was first named, the haemodynamometer. This thickened muscular coat is hard; but in many cases it is not a rigid tube, for it can contract and relax, although it has not the range of movement the normal artery has.

At this stage let me point out that the resistance offered by such a structural thickening as is represented in Figs. 3 and 4 cannot be removed; all that remedial measures can effect is to check hypermyotonia, and the power to do this is illustrated in the following cases.

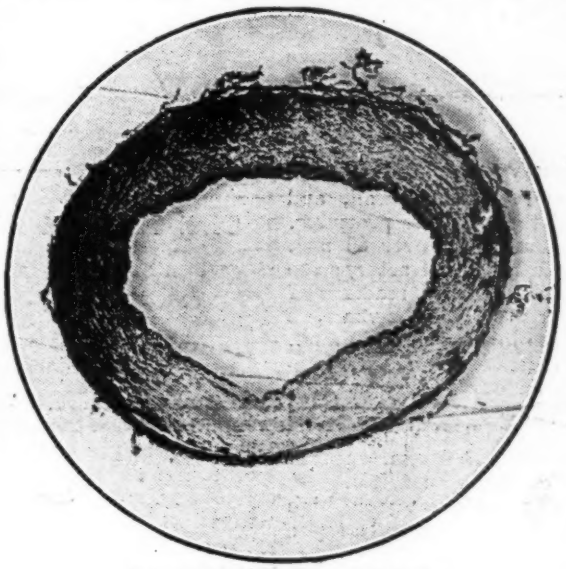

FIG. 3.—Sclerosis of Brachial Artery.

CASE IV.—*Moderate Sclerosis: Hypermyotonia 75 mm.*

A man, aged 58, while seated at his writing table was seized with inability to write, and he could not speak. He was taken home and seen by his doctor soon after arrival. His brachial pressure was 225 mm. He was given a tablet of erythrol tetranitrate. The following morning the pressure was 180, a fall of 45 mm. I saw him two days after his seizure. Speech had improved but was still blurred and it was difficult to make out what he tried to say. The right hand and arm had improved. The radial artery was small and hard, the brachial pressure was 175 mm. The heart sounds were faint. The apex by percussion was in the mammary line. He was given sodium iodide and bicarbonate and tincture of squill. A suitable laxative was suggested. I saw him again seven days later, when the pressure had been 160; my visit put it up to 180. Speech was much improved, but not quite pure, and he was able to write. Thereafter the pressure varied from 125 to 190, but it was promising to stabilize about 150. At that level it could be left, as a certain amount of sclerosis was assumed. Hypermyotonia was responsible for at least 75 mm. There was in this patient a history of habitual constipation, prolonged worry, and considerable tobacco smoking.

CASE V.—*Marked Sclerosis: Hypermyotonia 30 mm.*

A man, aged 68, complained of being drowsy and lethargic, and fit for nothing. I saw him in November, 1923. The brachial artery was hard, thickened, and tortuous; the pressure was 210 mm. He had been taking each morning a purgative which gave him one or more loose motions daily. He was given a laxative which was to be used so as to give one formed motion daily; his diet was regulated, and he was advised to abstain from wine. Two weeks later I saw him again. He had carried out instructions. His unpleasant symptoms had disappeared, he felt quite well, and the pressure was 180 mm. Iodides had no effect in lowering this figure, so they were not persevered with. I saw him last in February, 1924. He had continued well, and the pressure had remained at 180 mm. His death was recorded in August, 1926; but I do not know the cause.

It will be noted that a fall of 30 mm. removed the symptoms complained of, while the structural changes in the arteries made further efforts at reduction unwise.

CASE VI.—*Marked Sclerosis: Hypermyotonia 60 mm.*

A man, aged 54, sent to me at the end of February, 1924, complained of headaches, irritability, and somnolence—he fell asleep when he tried to read, and what he read he forgot in a few hours; he was unfit for work. The pulse was languid and poor. The brachial artery was visible at the bend of the elbow; it was hard, thickened, and tortuous, and the pressure was 240 mm. The heart sounds, including the aortic second, were faint. The urine, acid, specific gravity 1018, contained no albumin or sugar. I had seen this patient ten years before, when the brachial pressure was 170 mm. The outlook now seemed very hopeless, but I suggested cascara and taraxacum as a daily laxative; squill and spirit of nitrous ether; and spare meals. He was a teetotaler. He was sent to me again early in the following May, and I was surprised at the improvement. The drowsiness had gone, and memory had been recovered. The pulse was 84, regular and good, the myocardium had improved and the radial artery had lost its segmented character. The pressure was 180 mm.—a fall of 60 mm., and only 10 mm. above what it had been in 1914.

I need not multiply cases, but there are two others of such great significance that they must be briefly alluded to.

CASE VII.—*Suppression of Urine after Prostatectomy.*

This was a patient with high pressure, who remained well when his pressure was kept about 160 mm. After removal of his prostate he had suppression of urine, and was steadily sinking into coma. The pulse was 140, difficult to count, and felt like a small firm thread. The pressure was 220 mm. With the approval of the surgeon I gave him pituitrin and erythrol tetranitrate—the former to counteract the spasm of renal vessels, which I assumed to be the cause of the suppression, the latter to counteract the constrictive action of pituitrin on the systemic arteries. Within a few hours renal function was re-established; the threatening coma was removed; the pulse was large, slow, and regular; the pressure was 160 mm.

Here there was a fall of 60 mm., with relaxation of arteries and a steady good pulse wave.

CASE VIII.—*Thick Hard Artery; no Radial Pulse; Brachial Pressure 110 mm.*

A man was admitted after a severe attack of pneumonia. He was collapsed and apathetic. There was no pulse at the wrist. There was no heart sound audible anywhere. On examining the brachial artery at the bend of the elbow it was visible, tortuous, and hard; and the pulse could be felt as a mere tap. A pressure of 110 mm. was required to stop the tap. On auscultation no sound was heard as the pressure was applied. Cardiac stimulants were administered, and when I saw him the following morning the pulse at the wrist was easily counted. The pressure was 125 mm.—a rise of 15. How many of the 15 were required to drive the pulse wave from the bend of the elbow to the wrist I do not know.

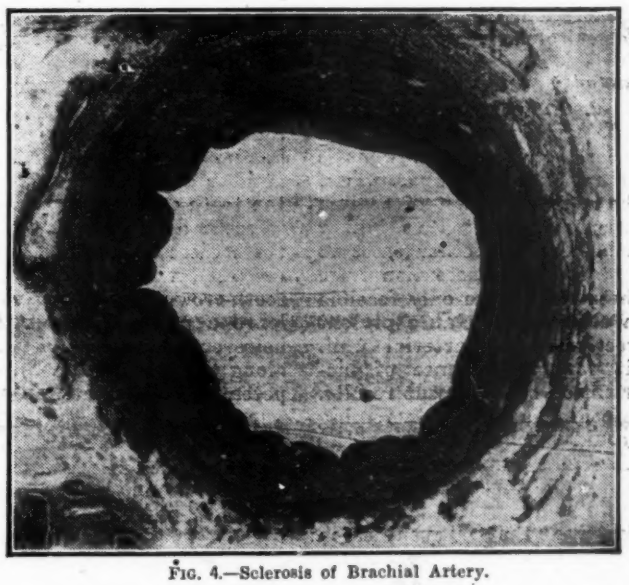

FIG. 4.—Sclerosis of Brachial Artery.

SUMMARY.

This last case provided a clinical demonstration, more convincing than many experiments, of the positive resistance of a sclerosed living artery, and of the unreasonableness of regarding sphygmometer readings as an index of heart power. Years ago I tested a sclerosed brachial artery, obtained soon after death, and found that it offered a resistance of 100 mm. to compression.[1]

The cases I have reported are examples taken from many. The observations were made in the course of ordinary routine examinations. I have shown constriction of a normal artery, and also the pathological changes which are present in the hard and thickened arteries known as arteriosclerosis. I have given examples of the tightening up of sclerosed arteries, and of the removal of that tightening.

and of the concomitant fall of sphygmometer pressure varying from 30 to 75 or more millimetres. To me the judgement to be pronounced is clear, plain, and inevitable.

CAUSATION.

As to causation, let me refer for a moment to the term "hyperpiesis," introduced to define cases of raised sphygmometer readings in persons without arterio-sclerosis and with no evidence of kidney lesion. They were therefore inexplicable, and were labelled with this name. I have seen many cases of this kind, but I never saw one without palpable constriction of the brachial artery. But the users of this word, and the exponents of what is called "primary and essential hypertension"—hypertension meaning sphygmometer readings—do not recognize that a constricted normal artery, with its living and thickened wall, and lessened lumen, materially affects sphygmometer pressures. I have stated that Janeway and Park gave over 60 mm. for hypertonic contraction in an unthickened artery; the first three cases recorded here gave relaxation readings of 25, 30, and 25 mm.—and that figure after the left ventricle had improved. In Case IV, after the initial fall of 45 mm., the extreme sensitiveness of the arterial wall gave sphygmometer readings which varied from day to day between 120 or 130 and 190 mm. If heart power was being recorded in this case the readings would have indicated an erratic variation of heart power of from 90 to 100 mm. without any indication that the left ventricle was responsible.

As to the influences invoked to account for high pressures, Professor MacWilliam[2] in a recent lecture says:

> "While it is obvious that some powerful agency is at work, the search for definite pressor bodies (from any source) in the circulation has proved to be singularly inconclusive. Clifford Allbutt said: 'Such catch phrases as intestinal toxins, kidney inadequacy, endocrine disorder, and the like are but dust in our eyes.'"

As a clinician who for many years has watched and measured the constriction and relaxation of the arteries examined for clinical purposes, I have learnt the great sensitiveness of this arterial function. The physiological conception that it is mainly, if not wholly, to maintain or regulate blood pressure is much too restricted a view. The arteries respond not only to cardiac output and to nervous influences, but to influences from the alimentary tract, including excess of protein food, wine, tobacco, insufficient removal of hepatic excretion, constipation, and so on. The subtlety of the chemico-vital composition of the blood in different individuals is a fact of which the observant physician has abundant proof, although the laboratory may not be able to explain it or define it by analysis. Biochemistry has done much; but can chemical analysis of the blood determine minor degrees of what is known as acidosis? Yet the clinician removes symptoms, and relaxes hypertonus, by the administration of sodium bicarbonate. So also with treatment directed to biliary secretion and suitable colon emptying; in other cases to the reduction of protein food; in others abstention from wines, and so forth. In all these classes the only feasible explanation is that there is a chemical substance present in the blood which acts directly on the arterial wall. Clinical medicine cannot wait for the advance of biochemical analysis for the confirmation of treatment results. Supposing that large protein feeding acted by increasing the secretion of adrenaline, could biochemistry show its increase in the systemic blood? The same question can be asked with regard to other possible constituents. As a clinician, with some understanding of chemical pathology, I entirely repudiate the doctrine that "such catch phrases as intestinal toxins, kidney inadequacy, endocrine disorder, and the like are but dust in our eyes." Any one of them, or any combination of them, can, and does, cause arterial constriction; and that, as we have seen, means a rise in sphygmometer reading.

The clinical observation which it is most important for us to train ourselves to make is the tightening up of the arteries we examine for clinical purposes. Arterio-sclerosis is the result of more or less continued tightening up in persons whose hearts readily respond to extra strain. It takes years to develop; and it can be checked if tightening is recognized and means are taken to eliminate the factor which is the prime cause. The heart hypertrophy is the response of the heart to the extra strain of driving blood through constricted channels. Kidney changes develop of an interesting and informative type. The renal artery outside the kidney shows the type of change seen in Figs. 3 and 4, whilst the divisions of the artery inside the organ show an irritative and progressive endarteritis. This goes on to the "gouty kidney" of last century, the arterio-sclerotic kidney of a later time.

REFERENCES.

[1] W. Russell: *The Sphygmometer*, Baillière, Tindall and Cox, p. 79.

[2] Professor MacWilliam: BRITISH MEDICAL JOURNAL, January 22nd, 1927, p. 125.

THE HISTOLOGY OF THE PERIODONTAL SULCUS.

BY

J. G. TURNER, F.R.C.S.,

DENTAL SURGEON AND LECTURER ON DENTAL SURGERY.

(From the Research Laboratory of the Royal Dental Hospital of London.)

(*With Special Plate.*)

THE importance of the periodontal sulcus as being the seat of origin of pyorrhoea will be patent to all who have grasped the significance of dental sepsis, yet it is a fact that there are no definite data as to its intimate structure. The chief point at issue has been how is epithelial continuity provided for in the normal condition? Does the gum epithelium attach itself to the tooth, or is there normally a breach of epithelial continuity where the tooth projects? In the latter case the apex of the sulcus would be a serious defect in our defensive armament.

For many years I failed in my efforts to get a section of the normal periodontal sulcus, owing to the dissociation of the tissues which occurs during decalcification and sectioning. A few years ago, however, I hit on the plan of embedding in celloidin before decalcifying, and have been able to get some very useful sections. Having no access to the dead-house I have had to rely on the forceps for my material. Obviously the forceps destroys the lingual and labial parts of the periodontal sulcus, so that my observations relate only to the interstitial part. In many cases a piece of the interstitial gum comes away attached to the tooth, probably more or less dissociated, but possibly intact. I have had a large number of such specimens sectioned, and have been led to the conclusion that interstitially at least there may be, possibly should be, no periodontal sulcus. I have found a considerable number of cases in which the gum is attached directly to the tooth-crown, and the attachment has been firm enough to resist disruption at the moment of extraction. Some of these cases show that there was no possibility of a sulcus (Fig. 1), the gum epithelium being prolonged on to the tooth-crown and fusing with Nasmyth's membrane; others leave a possibility that there was a shallow sulcus, not, however, at the neck of the tooth, but in a position halfway along the crown (Fig. 2). Some sections, again, suggest a potential rather than an actual sulcus (Fig. 3).

The question of epithelial continuity may be definitely answered. There should be no breach until the dentine of the tooth is exposed, or the neck denuded. The gum epithelium may spread over the tooth-crown, much as the skin epithelium over a nail (Fig. 1), becoming continuous with Nasmyth's membrane over a wide area; or it may be continuous with Nasmyth's membrane only at the edge, leaving the fibrous gum to take direct attachment to the tooth-crown (Fig. 5); or for a varying distance it may be split away from Nasmyth's membrane, taking a vital attachment only as the neck of the tooth is approached (Fig. 6); or it may take attachment only to the neck of the tooth—that is, to the cementum (Fig. 7). The first and last two cases leave a possibility of a periodontal sulcus which would develop as the gum epithelium split away from Nasmyth's membrane, possibly as the latter became less vital owing to ageing, or as the gum epithelium peels off

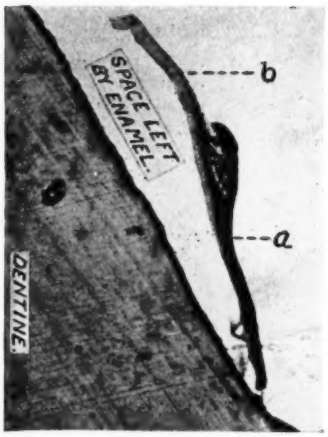

FIG. 1.—From a temporary molar patient, aged 12. *a*, Gum epithelium deeply stained. *b*, Nasmyth's membrane staining badly.

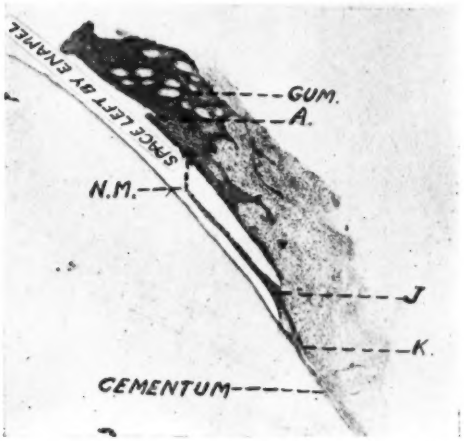

FIG. 2.—From a partly erupted permanent molar. N M, Nasmyth's membrane broken in sectioning. The apex of the sulcus was at A, well up the crown of the tooth. K, Epithelial prolongation along root. J, Junction of gum epithelium with remains of outer portion of enamel organ and Nasmyth's membrane.

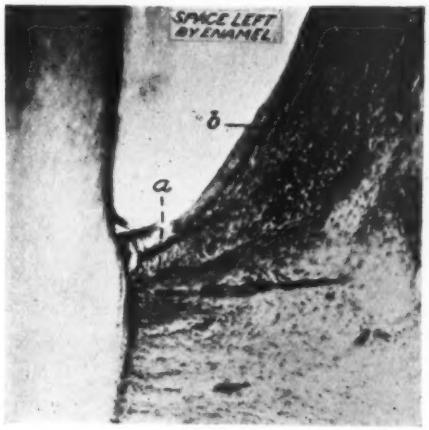

FIG. 3.—Temporary canine patient, aged 7. The gum epithelium is attached to the tooth, but between it and Nasmyth's membrane is a line of demarcation (*b*) along which splitting can readily occur. There is thus a potential sulcus.

FIG. 4.—A higher power of *a* in Fig. 3. It suggests stellate epithelium, and so the outer layer of the enamel organ as its origin.

FIG. 5.—A bicuspid patient, aged 12. The fibrous gum is attached directly to Nasmyth's membrane, and there was epithelial continuity only at the edge.

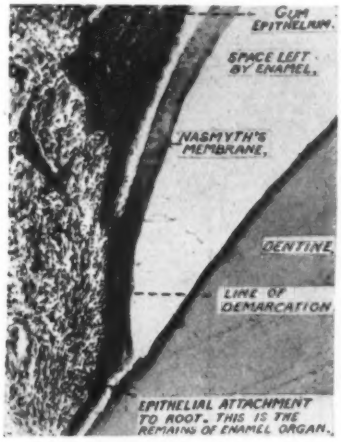

FIG. 6.—Temporary canine patient, aged 12. Nasmyth's membrane is badly stained (necrotic) and vital attachment of gum epithelium to tooth obtained only towards the neck. The sulcus was rather potential than actual.

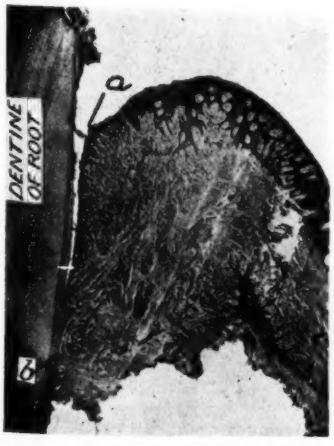

FIG. 7.—Partly erupted lower wisdom. The epithelium of the gum was attached to the root from *a* to *b*. The cleft is artefact, the root between *a* and *b* being coated with epithelium seen in thin black patches in the figure. Almost to the last the gum epithelium shows traces of papillary structure.

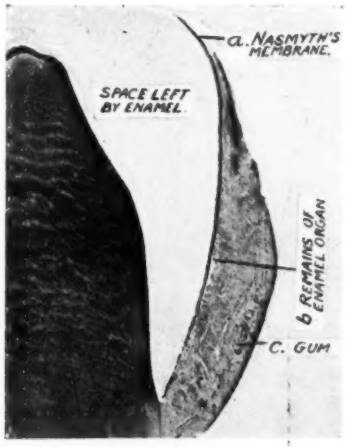

FIG. 8.—Unerupted incisor in a girl aged 9½. Nasmyth's membrane is well defined. The remains of the outermost layer of the enamel organ are seen as a rather discontinuous epithelial layer with small columns and coils reaching out into the adjacent gum. There is no epithelial prolongation along the root.

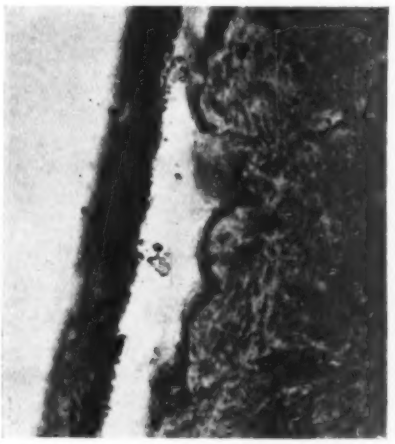

FIG. 9.—A higher magnification of *b* in Fig. 8 where the two epithelial layers have been split in sectioning.

FIG. 1, A.—Ulcer crater on lesser curvature (November 19th, 1926).

FIG. 1, B.—Ulcer crater smaller (November 25th, 1926).

FIG. 1, C.—Ulcer crater still smaller (December 2nd, 1926).

FIG. 1, D.—Ulcer crater has disappeared (December 16th, 1926).

FIG. 2, A.—Large ulcer; confirmed at operation (November, 1925).

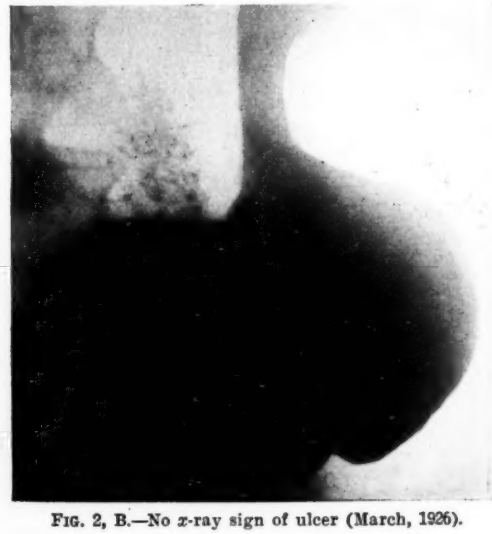

FIG. 2, B.—No *x*-ray sign of ulcer (March, 1926).

the root. The sulcus is thus seen to be a cleft left by the splitting away of gum epithelium from Nasmyth's membrane. When the gum epithelium has split clear away from the whole length of the tooth-crown, or where it never has united with Nasmyth's membrane, it may take a more or less extensive attachment to the root of the tooth (to the cementum).

Thus, though technically there is a breach of epithelial continuity where the attachment of gum to tooth has receded beyond the enamel, practically there is no breach in the defence till the enamel has been worn through to the dentine (by caries or attrition) or till disease (pyorrhoea) has destroyed the epithelial attachment to the tooth.

The nature of the epithelial prolongation which provides for epithelial attachment to the tooth-root is worth further notice.

It is not always present (Fig. 8), and in such cases, if it be due to develop later, it must be provided by the gum epithelium, as was probably the case in Fig. 7, where the gum epithelium can be seen gradually losing its papillary character as it passes along the root. In many cases, however, it seems to have been provided for from the beginning. Most of my sections of this point are taken from temporary teeth, and it is worthy of note that there is no difference in extent of prolongation between teeth about to be shed and those of earlier age (Figs. 3 and 6). There is thus no evidence in the temporary teeth of "continuous eruption." Fig. 7 shows epithelium whose gum origin is indicated by the gradual fading away of the papillary structure; but Figs. 3 and 6 from temporary teeth, and Fig. 2 from a permanent molar, suggest a different origin. A higher magnification (Fig. 4) of the prolongation strongly suggests stellate epithelium—a form of epithelium more likely to arise from epithelium originating from the enamel organ than from the gum. As Figs. 8 and 9 show, there is at the time of eruption an epithelial lining to the tooth-crypt derived from the outermost epithelium of the enamel-forming organ. To allow gum epithelium to take attachment to the tooth this epithelial lining must either atrophy or blend with the gum. I have not been able to decide which, but am inclined to think it generally atrophies, except at its periphery, where it remains capable at need of further growth.

THE HEALING OF GASTRIC ULCERS:

RADIOLOGICAL OBSERVATIONS.

BY

F. G. NICHOLAS, M.B., B.S.LOND., D.M.R. AND E.CAMB.,

ASSISTANT RADIOLOGIST TO THE MIDDLESEX HOSPITAL; RADIOLOGIST TO ST. LUKE'S HOSPITAL, CHELSEA;

AND

ALAN MONCRIEFF, M.D., M.R.C.P.LOND.,

MEDICAL REGISTRAR, MIDDLESEX HOSPITAL.

(*With Special Plate.*)

THE radiological diagnosis of ulcers of the stomach dates from the classical description by Haudek[1] of the characteristic "niche" seen in the outline of the stomach after an opaque meal. Much interest has been attached to the disappearance of this "niche" under treatment, and many papers have recently appeared on the subject of the "healing" of gastric ulcers. The terms "healing" and "healed" with reference to gastric ulcer are open to a certain amount of criticism; but it must be accepted that disappearance of a "niche" associated with clinical improvement, disappearance of pain and tenderness, disappearance of occult blood from the stools and vomit, gain in weight, must certainly indicate a *healing* process, as Hamburger[2] has pointed out. If the healing process continues and no recurrence takes place over a period of, say, two years, many observers would consider such cases as "healed." There is certain histological evidence to support this view, and the matter is more fully discussed later.

During the past two years we have investigated a group of cases by means of repeated opaque meals, and in this paper we deal with the results. Seventeen cases were selected in which *x*-ray examination disclosed a definite "crater" on the lesser curvature of the stomach. Certain cases occurring at the time when this investigation was commenced, in which an ulcer was present on the anterior or posterior wall of the stomach, have not been included, since it was found that unless an ulcer could be shown in profile in a skiagraph it was very difficult to estimate any change in size at subsequent examinations. The cases included in-patients and out-patients, but in many instances the attendance of the latter for treatment was very irregular, and no deductions as to the success or failure of medical treatment are made in this paper, nor should such deductions be legitimately made on the evidence put forward.

The "double meal" method has been employed. Two nights before the examination an ounce of castor oil is given, and the evening before a light meal is allowed. Six hours previous to the time arranged for radiography three ounces of barium sulphate are given well mixed with bread-and-milk.

At the screen examination notice is taken of the position of the head of the meal and whether a gastric residue is present or not. Occasionally there has been a residue of barium in an ulcer crater. Next a mouthful of thick barium emulsion is administered, and this is used to "whitewash" the whole of the stomach according to the method described by Scott.[3] After a careful examination of the whole of the stomach by this method the patient continues to take barium emulsion until the stomach is filled. The patient is then rotated, and the stomach examined from all angles. A skiagram is taken at that angle which shows the maximum size of the crater with the minimum of distortion. At the re-examination great care is taken that the distance between target and plate, and the position of the patient, are the same.

Results.

Of the 17 cases in this series all were examined on two occasions, and 15 on three occasions, the intervals between the examinations varying from one week to one year.

TABLE I.—*Results of First Re-examination (17 cases).*

(1) "Healed." No evidence of ulceration	11
(2) "Healing." Definite decrease in size of ulcer...	4
(3) "Stationary." No alteration in size	2

Average period elapsed since primary examination, six months.

The 11 cases in which no ulcer crater could be seen were all clinically free from symptoms, and in good health. The 4 cases in which the ulcer crater was smaller in size were all improving, although the patients were not altogether free from pain. In one of these cases, although the "niche" on the lesser curvature had disappeared, there was a persistent incisura opposite to the original site of the ulcer and symptoms were still present suggesting that healing was not complete.

TABLE II.—*Results of Second Re-examination.*

(1) No *x*-ray evidence of presence of ulcer in 11 cases, made up as follows:	
"Healed" cases without recurrence	6
"Healing" cases now "healed"	4
"Stationary" case now "healed"	1
(2) Ulcer again present ("healed" cases now relapsed)	4

Two cases did not attend; one shown as "healed" and the other as "stationary" in Table I.

Average period between the two re-examinations—three and a half months.

It will be seen from this table that in 4 cases reported as "healed" in the first examination definite relapse had occurred. The clinical symptoms and signs had reappeared in all these patients, although at the time of the first re-examination, when no ulcer crater was seen, all these 4 cases were clinically free from symptoms. In one of these cases the ulcer crater was definitely larger than before. Of the 11 cases reported as "healed" in Table II, 6 represented patients in whom the ulcer had remained healed over the whole period of investigation, and the others those in

whom "healing" had progressed satisfactorily between the two re-examinations.

In view of the great variability in the rate of healing present in this series of cases, quite apart from any question of special treatment, the results were further analysed with regard to length of history, since it might be expected that only ulcers with a short history would heal quickly or at all.

TABLE III.—*Results in Relation to Length of History.*

Group 1.
Cases found "healed" at both re-examinations ... 6
Length of history—9, 8, 6, 4, 1 (years), 6 months.

Group 2.
Cases found "healed" at first re-examination which were found relapsed at the second re-examination 4
Length of history—15, 4, 4 (years), 9 months.

Group 3.
Cases with ulcer still present at first re-examination which were "healed" at second re-examination 5
Length of history—10, 3, 1, 1 (years), 4 months.

These figures indicate that in our series of cases the healing of an ulcer has very little, if any, relation to the length of a patient's symptoms. It will be seen that the longest "history" in this series was fifteen years, and the shortest four months.

COMMENTARY.

The results here described confirm the value of *x*-ray examinations to check the healing of gastric ulcers. The ulcer may disappear very quickly; in one of our cases examined at weekly intervals it was no longer visible at the end of four weeks (Fig. 1). In another very striking case a huge crater suggestive of a malignant ulcer was discovered on radiological examination. At a subsequent laparotomy the large mass then found was so adherent to surrounding structures that the case was considered unsuitable for surgical removal. On a second radiological examination four months later there was no sign of a crater and the stomach appeared normal (Fig. 2). The "base" of the ulcer shadow was measured in each of our cases, and ranged from 3.5 cm. to 0.5 cm. In this series the size of the ulcer appeared to have very little connexion with the question of whether it would heal or not.

Healing and recurrence have taken place without any sort of treatment in patients who refused to attend regularly, and the "natural periodicity" of the peptic ulcer, as it has been called, has been very well shown. An important point arises from this with regard to the period at which a patient is submitted to radiological examination. By keeping careful clinical records of the patients here described we have found that as a rule pain disappears as the ulcer heals, but it is often gone before the complete disappearance of the crater. Also pain tends to reappear in a patient with recurrence before the ulcer can be shown on radiological examination. Consequently a negative *x*-ray examination between two "attacks" of gastric ulcer or even at the beginning of an attack must not be taken to exclude the existence of an ulcer.

Possible Fallacies.

In reading the literature on the healing of gastric ulcers we have been impressed with the possibility of certain fallacies with regard to the disappearance of the "niche."

Hamburger[2] has pointed out that when the "niche" on the lesser curvature disappears it probably means that scar tissue has filled up the ulcer crater. He holds, therefore, that disappearance of the "niche" and improvement in the clinical condition must occur together and be maintained for six months to two years before the cases are to be regarded as cured. In one group of his cases the "niche" disappeared, but peristaltic waves failed to pass over the ulcer area, indicating that a pathological condition was persisting.

The "niche" may possibly appear smaller because it contains food, as pointed out by F. W. White,[4] or mucus, as stressed by Hollander,[5] but we think that this source of fallacy is largely overcome by the use of the "double meal" technique, since we believe that the first meal acts as a cleanser of the stomach and there is much less risk of mucus or food debris being present in the floor of the ulcer when the second meal is given six hours later. White further stresses the importance of taking all the *x*-ray pictures from the same angle, a point to which we have paid attention. Hollander is inclined to doubt the value of the disappearance of the "niche" as an indication of healing, on account of one case in which healing was reported but haematemesis occurred soon afterwards, and a large chronic ulcer was found at operation. He suggests that an ulcer crater may possibly be obliterated by the pressure of surrounding organs. The probability in such a case is, however, that clinical signs and symptoms would still be present.

A paper on gastric ulcer by Büscher[6] contains certain interesting points in connexion with healing. This paper deals with 643 cases and is a study of the pathology and treatment of the condition. The author states emphatically that radiological observation of the disappearance of the "niche" during treatment is a most valuable estimation of the success of treatment. He stresses certain necessary precautions in technique, but in his wide experience he has not met with many cases where an error was made. Büscher points out, however, that the "niche" may disappear and quickly recur, so that in exceptional cases, such as that reported by Hollander with haematemesis after "healing," an ulcer reported as "healed" may be found at operation. Two recent papers by Crohn, Weiskopf, and Aschner[7] give support to the value of radiological evidence of "healing" of an ulcer. In the first of these they describe a group of 20 cases kept under constant clinical observation. They point out that certain mistakes may be made; a false impression of a "niche" may be produced by persistent peristaltic waves overlying shadows of barium-filled intestines, perigastric adhesions, or localized spasms. They believe, however, that the percentage of errors is very small, and that most objections are theoretical. They point out that whether disappearance of a "niche" means a fully healed ulcer, or the temporary filling of a crater with granulation tissue, can only be settled by examination of a stomach removed at operation from a case in which the "niche" has been shown to have disappeared.

In their second paper they deal specifically with this point, describing two cases of gastric ulcer operated upon. In one of these healing of the ulcer was far advanced, and definitely in progress in the other. Such healing had been associated in these two cases with the regression of subjective clinical symptoms, and the objective evidence of subsistence of the "niche" formation found radiologically. This evidence confirms the previous clinical evidence as to the value of *x*-ray examinations for observing the healing of gastric ulcers, and justifies the conclusion that radiological investigation of "healing" is a most valuable method.

SUMMARY.

1. Seventeen cases of gastric ulcer showing a crater on the lesser curvature have been observed radiologically and clinically over a period of two years.

2. The disappearance and reappearance of the characteristic "niche" have been observed and were associated with remission and recurrence respectively of clinical symptoms and signs.

3. No relation was found either between the length of history or the size of an ulcer and the rate or permanence of healing.

4. Certain fallacies are discussed, but on the whole *x*-ray evidence of healing appears to be of great value.

We are greatly indebted to the physicians and surgeons of the Middlesex Hospital for permission to examine patients under their care.

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UNEXPECTED DEATHS IN THE POST-OPERATIVE PERIOD.

BY

A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S.,

SURGEON TO THE BRISTOL ROYAL INFIRMARY, LECTURER IN PHYSIOLOGY TO THE UNIVERSITY OF BRISTOL;

AND

A. D. FRASER, M.A., B.Sc., M.B., Ch.B.,

CLINICAL PATHOLOGIST TO THE BRISTOL ROYAL INFIRMARY, PATHOLOGIST TO THE BRISTOL EYE HOSPITAL, DEMONSTRATOR IN PATHOLOGY TO THE UNIVERSITY OF BRISTOL.

THE material on which this study is based is contained in the accompanying tables.

It will be observed that during the ten-year period, and out of a total of about 16,000 operations, there were seven deaths on the table. In our study of deaths in the post-operative period we have excluded cases of cancer, intestinal obstruction, etc., but not when deaths on the table are considered. Of these seven, two were anaesthetic deaths, four must be attributed to the surgical procedure, and the other was moribund from strangulated umbilical hernia, and died after inhaling only a few drops of ether.

Anaesthetic Deaths.—The first was a man of 48, with an appendix abscess complicated by tuberculous peritonitis. He died during the induction stage. The autopsy showed a flabby degenerated myocardium. The second was a woman of 77, with acute intestinal obstruction, who died during induction. The probable cause was cardiac failure. Open ether, with a little chloroform occasionally during the induction stage, is the almost invariable anaesthetic agent used.

Deaths on the Table from the Surgical Procedure.—The first was a lad in a very feeble condition, with a temperature swinging to 103°, suffering from psoas abscess. He died during the operation. The autopsy showed a flabby heart. Another was a man of 43, with a subclavian aneurysm. He died of haemorrhage. The third had traumatic middle meningeal haemorrhage, and died of bleeding and cerebral compression. The fourth was a baby with bronchopneumonia (temperature 100°, pulse 144). An abscess in the groin was opened without an anaesthetic.

DEATHS IN THE POST-OPERATIVE PERIOD.

The table fully bears out what is well known to the profession, but what the public is slow to learn—that the real dangers of an operation are not during, but after. It will be seen that, except in babies under a year, the risks of surgery are very small indeed until the age of 30 in women and 40 in men. If our statistics had included out-patients and throat cases, a few deaths from the tonsil operation might have appeared to detract from this conclusion. Our figures show no deaths from status lymphaticus. Another ancient bugbear that does not appear is entry of air into a vein. Only one death due to air embolism was noted during the period under discussion, and that was a case of cut throat with partial severance of the external jugular vein. Surgery seems to furnish rather more calamities in men than in women, but this is partly due to a slight preponderance of males operated upon, and especially to the prostate deaths in old men.

It will further be observed that the bulk of the deaths followed operation for three conditions—namely, enlarged prostate, gastric or duodenal ulcer, and gall stones or cholecystitis—and here the principal gains are to be hoped for in the future.

A special table is given of what are described as utterly unexpected deaths, eighteen in number. This includes such disasters as the following:

A man, aged 45, who collapsed suddenly on the fourteenth day after operation for hernia, was thought to be bleeding internally; laparotomy was performed, but nothing found. At necropsy he was found to have had a dilated and fatty heart and atheroma of the aorta.

A man, aged 50, died of tuberculous meningitis eight days after orchidectomy for tuberculous testis.

CONSIDERATION OF THE ASSIGNED CAUSES OF DEATH.

It will be observed that the greatest number of post-operative deaths are attributed to pneumonia, bronchitis, or massive pulmonary collapse (27 out of 109). Of these, 7 followed operation for gastric or duodenal ulcer, and 3 were after gall-bladder surgery. As has often been remarked, this shows that there is some special danger of this complication after these as compared with other operative procedures of equal length and severity. How may we account for these cases? In 5 or 6 the notes state that bronchitis was present before operation, and in another, we suspect that an appendix was removed in error when the real diagnosis should have been incipient pneumonia. We have several times given rectal ether instead of an inhaled anaesthetic in bronchitics or phthisics, but have twice seen pneumonia or collapse of the lung follow—fortunately not fatal.

It is not probable that sepsis, *per se*, gives rise to the bulk of the lung complications. Many of those who died were clean cases; pneumonias rarely followed operations for cellulitis, pyaemia, and abscesses. Several factors must be regarded as possibly acting. The operative procedure on the upper abdomen probably gives rise to reflex inhibition of the diaphragm, which in its turn is followed by collapse of the lung, and that again by infection. Minute emboli carrying germs may be a factor. The anaesthetic plays some part, no doubt, but not so large a one as was until recently supposed. Inhalation of vomit may sometimes occur. The subject has been reviewed within the past year by Featherstone of Birmingham, after study of a considerable volume of statistics. He thinks inhibition of the diaphragm is the principal cause, and the frequency of lung complications after upper abdomen operations is certainly suggestive of this. According to Grégoire, previous gastric lavage and the substitution of local for inhalation anaesthesia reduce the incidence of post-operative pneumonia in gastric cases from 21 to 9 per cent.

And how may we attain the greatest success in avoiding this most dangerous sequel? First, and principally, by the collection of evidence as to the exact cause. Until that is more accurately known very little progress is likely. On our present information the following rules may be laid down:

1. To avoid as far as possible operating on persons with bronchitis, or to operate under local anaesthesia.
2. Careful guarding against inhalation of vomit.
3. As little moving through cold corridors as possible on the way back to bed.
4. The use of novocain or quinine-urea to reduce the inhibition reflex in upper abdomen operations; no drainage tubes just under the liver to impede its descent; no tight binders.
5. After returning to bed to prop the patient up when possible, and coax him to draw deep breaths as soon as conscious.

A striking and rather unusual example of sudden unexpected death falling into this class is the following:

A woman, aged 36, had a trifling incision made, under a general anaesthetic, over a supposed lump in the groin, which proved to be nothing. She seemed well afterwards, and on the fourth day got out of bed to go home. She became cyanosed and stopped breathing. The pulse went on beating for a while, then she died. The *post-mortem* examination showed collapse of the right lung, old-standing bronchitis, and fatty heart.

It seems probable that an examination of the base of the lung would have saved her.

Pulmonary Embolism.

Contrary to the usual opinion, this seems to be a rare cause of sudden post-operative death. It has often been suspected, rarely found. What had been diagnosed as pulmonary embolism generally turned out to be sudden cardiac failure. Only two cases appear in our ten-year series. One of these, occurring on the thirteenth day after operation for salpingo-oöphoritis, was typical enough both as to symptoms and *post-mortem* findings. The other, following on the eleventh day after a gastro-jejunostomy, was atypical, and the clot in the pulmonary artery had evidently been present unsuspected for some days before death. A few cases may have been overlooked for lack of an autopsy, but, if so, the symptoms were not those usually associated with this disaster.

It is stated that getting patients up early, or, in default of this, making them move the legs in bed, helps to avert

the thrombosis which determines the embolism. At the Mayo Clinic there were 146 deaths from post-operative pulmonary embolism from 1889 to 1920—that is, about one to every 1,200 operations. It was especially frequent after pelvic surgery (Heard). At the Zürich clinic during the past twenty years, fatal pulmonary embolism occurred in 1.25 per cent. of the operations for uterine myoma (Holzmann).

Cardiac Failure.

Here we approach the most inscrutable, the most tragic, and probably the least preventable of the causes of death in the post-operative period. There is, of course, room for difference of opinion as to classification, but we have blamed the heart for 11 out of 109 deaths, and in 6 of these the event is tabulated as "totally unexpected," on account of the slightness of the operation or the good progress made heretofore.

A few examples typical of various groups may be given.

1. A man, aged 63, underwent Bassini's operation for hernia; he did well till the seventh day, then showed signs of cardio-vascular failure, and died the next day. *Post-mortem* examination showed marked coronary atheroma and myocardial degeneration.

2. A man, aged 58, fell down pulseless whilst crossing the ward nine days after operation for varicocele, and died on the spot after feeble movements of the arms and legs. A dilated left heart was found at necropsy, with flabby muscle and atheromatous coronary arteries.

3. A woman, aged 51, whose gall bladder was drained for cholecystitis without stones, following on repeated attacks of acute cholecystitis with rigors and jaundice. She had a rigor on returning from the theatre. The legs became oedematous on the second day. The temperature never settled to normal; on the seventh day she became collapsed, and later died. At the *post-mortem* examination the liver was swollen and mottled, the ducts dilated and oozing pus, there were stones in the common duct, and patches of ulcerative endocarditis on the aortic valves, which showed ruptures in two places.

The third example can scarcely be called an unexpected death, but the others illustrate how cardiac failure may be either gradual or sudden.

Omitting a few fatalities from endocarditis and pericarditis, we observe that the remaining cardiac deaths include 5 in men, all over 45, and 3 in women. Of the men, 3 followed operation for hernia or varicocele, and one each after gastro-jejunostomy and enlarged prostate. In the first three of these there is no note that any warning of heart weakness had been given. The fourth (the gastric case) did very well for nine days, and then died suddenly. The day before death he vomited without obvious reason and without alteration of the pulse. The next day he suddenly fainted and had "a sort of fit." The pulse disappeared. There was no pain and no vomiting, and no signs of tenderness or rigidity or distension of the abdomen. Finally, the breathing stopped half an hour after the seizure. There was no necropsy. It transpired afterwards that a brother and an aunt and other relatives had also died suddenly, two of them after operations. The fifth patient, who died three days after prostatectomy, had had anginal symptoms, though without signs. The necropsy showed atheroma of the coronary arteries.

Of the women, one was 39, the others older. Two had had attacks of faintness before operation.

Some such patients die probably because an infected area has been stirred up by the surgeon, and a heavy dose of toxin absorbed. In others chloroform may have a share, but probably not ether to any serious extent. The deadly nature of the chloroform-adrenaline combination is or ought to be well known. Several of the cases have occurred just when the patient was getting up again, and the strain has been too much. In a few cases it has seemed possible that post-operative semi-starvation has just turned the scale against them.

How may disaster be averted? In patients over 45 careful inquiry ought to be made into their response to hill-climbing and walking exercise. In cases where there is any ground for suspicion, we should do as little as possible to disturb an infected area, avoid chloroform, feed as well as possible, and exercise special care about getting the patient up again. But the surgeon is apt to be caught in a dilemma when there is some suspicion about the heart, and yet the condition demands intervention. Surgery will always need courage.

Haemorrhage and Shock.

Little need be said under this heading. It is important to realize that catgut knots are apt to be insecure, and it is wise to use a three-cast knot instead of two, and to transfix with a needle if the hold will not be perfectly reliable. In operations on the neck it is well to let the patient cough or vomit just before suturing the skin. If the patient is jaundiced the coagulation time should be taken, and if it is delayed a prophylactic intravenous injection of calcium chloride should be given (10 per cent. in 5 c.cm. doses per 60 kilo body weight, on one, two, or three successive days). If gastro-jejunostomy is being done with clamps we earnestly advocate using an interlocking inner suture line, and taking off the clamps before the conclusion of the inner (through-all-coats) suture line to inspect for bleeding points.

Two of the eight deaths after gastro-jejunostomy succumbed to secondary haemorrhage more than a week after operation. Three were very exsanguinated when operated on, and probably it would have been wiser to let them alone. In one case a patient bled to death after splitting the kidney; it would have been better to remove it (for persistent unilateral idiopathic renal haematuria).

It will be noted that most of the deaths from shock were after gall-bladder surgery. It is probable that there was some underlying defect in the liver. Other fatalities classified here include an amputation at the hip-joint for tubercle, an abdominal nephrectomy, and an Albee operation on the spine, with aspiration of a psoas abscess.

Late Anaesthetic Deaths.

To what extent anaesthetics contributed to some of the deaths from chest complications is a difficult question to which we have already referred, and we shall shortly consider their relation to liver deaths. A woman, aged 47, operated on for interval appendix, died the next day, with cyanosis and dyspnoea. She appears to have inhaled vomit into the trachea. There was no necropsy.

Renal Deaths.

Fourteen fatalities in our series are attributed to this cause. In 7 cases the operation was a prostatectomy; in 5 others the diagnosis was papilloma of the bladder, vesical calculus, and stricture (three). One patient died of anuria after nephrectomy, on the fifth day; this was a case of pyonephrosis and perinephric abscess. The remaining case was a curious one.

A mentally deficient woman, with incontinence of urine and faeces, had a needle in her thigh, and an attempt to remove it under a local anaesthetic failed; it was therefore taken out under ether. The temperature ran up to 102° that night, and she died the next day in a condition of cyanosis and dyspnoea. At the *post-mortem* examination chronic nephritis and a fatty heart were found.

Deaths from renal bankruptcy in urinary surgery, and especially after prostatectomy, are much less frequent than they were, but it seems probable that further improvement can be obtained. The use of the two-stage operation, and the preliminary testing of the kidneys by the urea concentration test and the estimation of blood urea, as well as the routine examination and measurement of the urine, and it may be of the Rowntree-Geraghty and other tests, enable us to avoid some dangerous pitfalls. We now know that the patient may look and feel in good health, and there may be no cystitis, and yet the kidneys may be on the verge of a final breakdown. On the other hand, they are sometimes surprisingly little affected even in a man who has carried a bladder up to his umbilicus for months. My own practice has been to perform the two-stage operation in all cases in which the urea concentration test is below 1.5 per cent. But this does not avert all danger. Out of our 16 deaths following prostatectomy all but two underwent the two-stage operation, 4 dying after the cystotomy and 10 after the removal of the prostate. Not all these deaths were renal, however.

We believe that even very gravely affected kidneys will improve if they are relieved of back-pressure, and then given plenty of time. In two recent cases in the practice of one of us, men who nearly died after the first stage were left for three months wearing a Pezzer tube, and both did well after the prostatectomy. In a third the

percentage of urea before giving any by the mouth was 0.5, and the administration of 15 grams did not raise it in the least. A Pezzer tube was inserted, and after three months the urea concentration test showed 1.1 per cent. The prostate was removed, and he never gave any anxiety.

Liver and Pancreatic Deaths.

Far too many patients have died, as will be seen from the tables, after gall-bladder surgery, and the deaths have often been somewhat mysterious, and unlike those following other operative procedures. Three such fatalities are classed as of "uncertain" cause. Four were probably due to defects of the liver or pancreas, and five occurred under forty-eight hours, and are attributed to "shock," but it seems likely that there was some underlying hepatic deficiency.

Heyd has been in the habit of removing small pieces of liver for the microscope at gall-bladder operations, and has found that there is often a good deal of cell change, fibrosis, etc. He describes three types of death after operations for cholelithiasis. In the first they die in a few hours in a drowsy state, and the operation may have been an easy and simple one. The second type do well for a couple of days, and then develop vasomotor collapse, and may die, or may be saved by proctoclysis and the administration of salines and glucose. In the third the interval before symptoms occur is longer, about five days, and they die in coma. All these are probably due to liver inadequacy. The liver contributes fibrinogen to the blood, so deaths from uncontrollable oozing may also be assigned to hepatic inefficiency.

In our series 9 out of the 20 deaths followed operation either during an acute febrile attack or within a day or two of one. In such circumstances the liver poisoning would be at its worst. Three cases classed as liver deaths were as follows:

1. A woman, aged 30, underwent cholecystectomy during an attack of biliary colic. The gall bladder was very thick and inflamed, but was not adherent; two small stones were removed. The next day she passed into a very collapsed state, with very feeble pulse, temperature 97°, blood pressure (on eighth day) only 60. There were no abdominal signs. The legs became paralysed, and she died on the eleventh day. This seems to belong to Heyd's second type.

2. A woman, aged 62. Cholecystenterostomy was performed for deep jaundice. A lot of oozing followed the operation. She never recovered from the feeble condition, and died on the seventh day. *Post-mortem* examination showed stones in the gall bladder and bile ducts, chronic fibrotic pancreatitis, and much dilatation of the liver ducts and signs of toxaemia.

3. A woman, aged 59, with acute febrile cholecystitis and jaundice, for which cholecystectomy was performed. She did well at first, but the appetite became poor and the pulse very feeble, and she died on the seventh day. *Post-mortem* examination showed a stone in the ampulla of Vater, dilated bile ducts, and flabby dilated heart.

One case classified as a pancreatic death showed fat necrosis at necropsy. The patient died on the twelfth day after cholecystotomy for a "strawberry" gall bladder. The case was admitted as an urgent one. The liver showed parenchymatous infection. There was pus in the gall bladder, but no stones.

The case returned as a liver death apart from gall-bladder surgery was a girl with tuberculous peritonitis, who at necropsy was found to have advanced hepatic cirrhosis.

How, then, is safety to be obtained in gall-stone cases? Certainly, by doing our utmost to avoid operating on febrile patients, or in the presence of an acute attack of biliary colic (unless done on the first day, before the liver has had time to be poisoned). Much is gained if we can tide the patient over for a fortnight or more. Inasmuch as chloroform and ether are well known to be hepatic poisons, they should be avoided when liver toxaemia is suspected. If we *must* intervene, let us do as little as possible; if the patient is not jaundiced, it may suffice to drain the gall bladder under local anaesthesia without disturbing adhesions. If jaundice is present, of course more must be done, and the risks in a febrile toxaemic patient are sure to be considerable. With the gall bladder, as with other organs, interval surgery is safe surgery.

The diagnosis of liver toxaemia rests on the following tests: (1) Rosenthal's bromsulphalein test; (2) the laevulose tolerance test; (3) van den Bergh's test for the detection of latent jaundice. In several recent cases the laevulose test has warned us to wait a little longer before operating on patients who have recently had an acute attack, and the operation findings have shown that the delay was wise.

Other Causes.

The remaining causes of unexpected death in the post-operative period do not call for much remark.

A patient died of peritonitis after cystotomy for enlarged prostate, without any direct leakage, by infection tracking up in the layers of muscle. Two cases developed meningitis: one, a man, after orchidectomy for tuberculous testis; and the other, a child, after removal of the cuboid for talipes (in the latter the meningitis was not verified *post mortem*). Three cases of persistent vomiting after gastro-jejunostomy were presumably due to vicious circle or faulty lie, as there was no evidence of leakage.

As an example of a strange fatality after operation the following may be given:

A woman, aged 53, was sigmoidoscoped, and piles were ligatured under a general anaesthetic. A little bronchitis was present. During the night the pulse dropped to 50, and there was extreme feebleness. She died twenty hours after the operation. At the necropsy no injury to the bowel was found, but it "showed signs of absorption of toxins," and there was "slight peritonitis"; the lungs were congested, and liver and heart showed slight fatty degeneration; there was atheroma of the aorta and right coronary artery, and old pericarditis; the heart muscle was weak. The spleen and kidneys were toxaemic. Death was attributed to peritonitis and heart failure.

The tables refer to cases during the ten years 1915 to 1924 at the Bristol Royal Infirmary, under six surgeons; also the private practice of one of us (A. R. S.) during the same period. They include all deaths on the operating table, from whatever cause; all deaths occurring within fourteen days of operation, amongst in-patients in the surgical wards, or in a nursing home or private house, except those specifically excluded. Many of the deaths were therefore not entirely unexpected. For instance, all deaths following operation for enlarged prostate, gastric or duodenal ulcer, and gall stones are included. The cases excluded comprise out-patients; eye, ear, nose, throat, and gynaecological cases, except when operated on by a general surgeon; big accident cases; cases of cancer, intestinal obstruction, strangulated hernia, peritonitis, osteomyelitis, septicaemia, pyaemia, cellulitis, carbuncle, diabetic gangrene, myelocele, cerebral tumour, and exophthalmic goitre. Two or three deaths due to a technical error in the operation are also excluded.

The total operations in the period numbered about 15,000.

Classification by Cause of Death.

Cause of Death.	Peptic Ulcer.	Prostate.	Gall Bladder.	Unclassed.	Totals.
Pneumonia or empyema...	7	3	3	14	27
Pulmonary embolism ...	1	—	—	1	2
Cardiac...	1	2	2	6	11
Haemorrhage	8	—	1	3	12
Shock	2	2	5	3	12
Late anaesthetic deaths ...	—	—	—	1	1
Renal	—	7	—	7	14
Liver	—	—	3	1	4
Pancreatic	—	—	1	—	1
Ileus or peritonitis... ...	2	1	2	3	8
Meningitis	—	—	—	2	2
Sepsis	—	1	—	3	4
Vomiting	3	—	—	—	3
Uncertain	2	—	3	3	8
Totals	26	16	20	47	109

Deaths in the Series.

On the operating table	7
During post-operative period	109
Total	116

Age and Sex.

	Under 1.	1-10.	10-20.	20-30.	30-40.	40-50.	50-60.	60-70	70-.
Males	2	2	4	1	2	16	13	12	10
Females ...	5	1	2	2	9	6	15	8	3
Total ...	7	3	6	3	11	22	28	20	13

Total males, 62; total females, 51.

Totally Unexpected Deaths.

Cardiac	6
Pneumonia	3
Pulmonary embolism	2
Late anaesthetic	1
Ileus	1
Strangulation after hernia operation	1
Meningitis	2
Renal	1
Sepsis	1
Total	18

We are greatly indebted to our surgical colleagues, past and present, for their kind permission to use their notes of cases; also to Dr. Dorothy Staley for clerical assistance.

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NASAL INFECTION IN CHILDREN.

AN ANALYSIS OF 85 CASES TREATED BY AUTOGENOUS VACCINE.

BY

LEONARD MACKEY, M.D., M.R.C.P.,

PHYSICIAN, QUEEN'S HOSPITAL, BIRMINGHAM.

IN response to the suggestion of a medical colleague specially interested in diseases of children, I turned up the records of all the children (85) who had been brought to consult me between 1915 and 1925, whose illnesses I attributed to nasal infections, and for whom I had prepared autogenous vaccines.

I then wrote to each child's medical attendant and asked: What was the result of the vaccine treatment? and Did the administration of the vaccine upset the child?

I received answers from all. In eighty-three cases the inoculations caused no inconvenience and the full course was administered; in one case the reactions were so severe that the vaccine was discontinued, and in one case the vaccine was stopped because the child got whooping-cough. The therapeutic effect of the treatment appears later, and is so satisfactory that some analysis of the cases cannot fail to be of some scientific and clinical interest.

The average age of the children was 8 years. The following table shows the complaint for which I was consulted, and the result as reported recently by the medical attendant.

Complaints.	Cured.	Much Improved.	Little or no Improvement.
Asthma	1	1	0
Bronchitis and asthma	5	7	0
Chronic bronchitis	11	2	2
Chronic bronchitis and nasal catarrh	12	6	1
Chronic nasal catarrh	17	11	2
Recurrent pyrexial attacks	3	0	0
Recurrent pneumonia	2	0	0
Total	51	27	5

Naturally every child was brought to me by the father or mother, whose anxiety centred either on the poorness of the child's general health, the fear that "consumption" would develop, or the inability of the child to attend school. These children for the most part had had prolonged medical treatment, had failed to benefit from a change at the sea, and the tonsils and adenoids had been removed.

When the vaccine was begun all other treatment ceased. In every case the vaccine was given every week for twelve or fourteen weeks.

The bacteriological findings were as follows:

Pneumococcus	73 cases
B. influenzae	31 ,,
Friedländer's bacillus	17 ,,
Staphylococcus aureus	11 ,,
M. catarrhalis	9 ,,
Streptococcus	6 ,,
Streptococcus pyogenes	2 ,,
Bordet's bacillus	1 case.

From these figures it will be seen that although the pneumococcus was present in nearly all cases, in most instances one of the other germs was present also. No notice was taken and no record kept of diphtheroid bacilli, hard colonies of chromogenic diplococci, or any other germs which were regarded as unimportant.

The vaccines were usually made from primary cultures or first subcultures, sterilized by heat. Their strength varied with the ages of the children. In a child of 8 the initial dose was about five million and the final dose fifty million of each germ employed.

The cultures were made from nasal swabs on plates of blood agar and pepsinized blood influenza medium. *Never more than five minutes was allowed to elapse between the taking of the swabs and the inoculation of the media.*

In some cases sputum was available, but added nothing to the bacteriological findings from the nasal cultures. The cultures were usually so profuse as to leave no doubt as to the reality of the infection.

My own belief is that the infection in such cases lies in one or more of the nasal sinuses, and the results confirm the opinion, which I have held for many years and expressed in the JOURNAL on more than one occasion in the past, that not only in nasal catarrh, but also in chronic bronchitis, certain types of asthma, and some cases of unexplained pyrexia, the cause must be sought in the nasal passages. That one should have been so fortunate as to get satisfactory results in over 90 per cent. of cases which had defied other forms of treatment is the excuse offered for publishing these notes.

THE DIAGNOSIS OF TUBAL ABORTION AND RUPTURE.

BY

J. S. M. CONNELL, F.R.C.S.ED.,

GYNAECOLOGICAL AND OBSTETRIC OFFICER, DUDLEY ROAD HOSPITAL, BIRMINGHAM.

TEACHERS of gynaecology and obstetrics are compelled to be somewhat dogmatic when lecturing to undergraduates; and even by the bedside they have to try to impress the student's mind with a fairly definite picture of the various types of pelvic lesions with which he is expected to deal in after-life. I think most young graduates feel that whatever else they do not know, they are not going to fail to diagnose the classical case of tubal abortion or rupture. The history that one or two regular menstrual periods have been missed; the sudden onset of pain in either iliac region, with extreme tenderness and rigidity of the abdominal muscles; the slight loss per vaginam; the rapid pulse; the pallor of the patient; and the discovery of a fluctuant mass in the posterior fornix—when all these are present there is no difficulty in coming to a quick and correct diagnosis.

This picture, however, is seldom seen, and many cases have come under my care where the diagnosis has not been made or has been made very late. When the case has been diagnosed early the prognosis is very good, but becomes rapidly worse the longer the patient continues to bleed—for two reasons: first, the drainage of blood, apart from the primary risk of death by syncope, exhausts the haemopoietic tissues, and postpones the re-establishment of an efficient blood supply; secondly, the continued

presence of blood in the peritoneal cavity increases the chances of infection from the bowel, contributed to by the invariable constipation, or, more rarely, from latent infection of the adnexa. The classical picture may fail us in the following respects:

The Missed Period.—(*a*) It is frequently observed that the first two or three months of intrauterine pregnancy are associated with menstrual loss more or less normal. This may also be the case when the pregnancy is extrauterine, and hence the history of missed periods may be entirely absent. (*b*) When the periods have been perfectly regular previously, the occurrence of intraperitoneal haemorrhage before the onset of the first menses is very rare, but the abortion or rupture may occur synchronously with the expected menses, and the condition be diagnosed as dysmenorrhoea. (*c*) The patient may be lactating, with the associated amenorrhoea, and she may be very emphatic as to the impossibility of conception having taken place. The first menstrual period after lactation and amenorrhoea is frequently copious and of long duration, and on this account the extrauterine disturbance may be overlooked. (*d*) Another group is common, in which an apparently normal period has continued for several weeks with occasional attacks of abdominal pain and faintness of varying intensity. If a period or two have been missed the diagnosis is threatened abortion, until a severe paroxysm of pain leads to more careful examination, and the pelvis is found full of blood clot, with recent blood in the abdomen.

Pain.—The first attack of pain is nearly always typical. The intensity varies from the acute disabling spasm to very slight pain, but it is always definite, always sudden, and nearly always associated with a varying degree of faintness. It passes away to a great extent in a short time (an hour or two), if the patient is at rest and no further bleeding takes place. These are points of difference from all but the rarest cases of appendicitis, with which the condition is commonly confused, owing to the associated constipation and one or two attacks of vomiting. Blood is said to be highly irritating to the peritoneum, and this is so when it is first effused, but the irritation passes off, and cases are not rare in which severe attacks of pain have occurred at intervals of a week or more, the patient going about her usual avocation, and in which, at operation, very old organizing blood clot has been found in the pelvis. The site of the pain varies. Usually in either iliac region, it may originally be umbilical or even epigastric, and in three of my cases has extended later to the left shoulder, presumably owing to the blood getting up to the subdiaphragmatic region and irritating the phrenic nerve. The point of maximum tenderness is always pelvic.

Decidual Cast.—The slight loss from the vagina is so commonly mistaken for a normal period as to call for only cursory mention, and the passing of a uterine decidual cast, in about a third of the cases, is not often noted by the patient or inquired into by the doctor, but when found it gives a positive diagnosis. The loss is usually dark brown.

General Signs.

Pulse.—The rapidity of the pulse rate varies with the rapidity of the bleeding. I have seen a case with abdomen full of blood, with a pulse rate of only 90—she had been bleeding intermittently for three weeks. Severe bleeding may also cause much surgical shock, in which case the pulse rate occasionally is low, even down to 80.

Temperature.—The usually normal or subnormal temperature does not assist very much in diagnosis. Many abdominal emergencies show similar conditions, and a late case of blood in the peritoneum may have a temperature as high as 100°.

Pallor is almost always present in both early and late cases, and this sign is not given the important place it should have in the textbooks.

Local Signs.

Rigidity and Tenderness.—Rigidity and extreme tenderness of the abdomen are by no means invariably present. In more than half of my cases the abdomen was comparatively flaccid and only slightly tender, with the peritoneal cavity full of blood. These cases include early and late ones. As in the case of pain, the irritation of the effused blood apparently passes quickly, unlike that caused by acute inflammation, where the rigidity tends to increase. In my experience the absence of this sign, more than that of any other, has given rise to mistakes by general surgeons.

Fluctuation.—The fluctuant mass in the pelvis is only found in the textbooks or in late cases. Fluctuation implies some tension, and no tension is present until the irritation of the blood has led to some peritoneal adhesions of loops of bowel, to form a roof to the pelvis (the omentum does not take much part in this, as in inflammatory lesions). These adhesions are formed only after several days, and the only sign in the pelvis is tenderness, usually extreme, and usually in all the fornices—not particularly the posterior. This helps to differentiate from suppurative conditions, where the tenderness is nearly always posterior. The fluctuant mass is an intermediate stage and not often found, the common sign being an irregular doughy mass in cases of a week's standing or longer.

It seems clear, then, that the diagnosis of tubal abortion or rupture is not the easy matter we are led to expect, and in many cases can be arrived at only after detailed examination of the history and careful investigation of the physical signs.

I now put most faith in the following: The history of sudden onset, almost always while the patient is in motion—that is, going about her work; the feeling of faintness; the missed menses, if any; the pallor of the patient, and the presence of evenly distributed tenderness in the fornices.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

POISONING BY OIL OF EUCALYPTUS.

As I fail to find any record in any textbook of toxic symptoms produced by eucalyptus the following case may be of interest.

On April 27th I was called to see Mr. T., and was informed by his wife that he had taken an overdose of eucalyptus oil.

The patient was cyanosed, the respirations were very shallow, the rate being about 12 a minute. He was in a condition of stupor, and could be roused but refused to speak. The pulse rate was 50 and very feeble. The pupils were contracted to pin-point and did not react to light. The reflexes were very sluggish and there was considerable loss of muscular tone. The body was cold and clammy.

Strychnine 1/60 grain was given hypodermically and 2 drachms of mustard in water by the mouth. He vomited soon after, and the vomitus smelt strongly of the essential oil. A stomach tube was passed and the stomach washed out with two quarts of water. The patient's condition improved gradually. On regaining his normal mental condition he stated that after taking about 4 drachms of oil of eucalyptus he at once felt a pain in his stomach. A feeling of nausea soon followed, but he did not vomit. His limbs began to get weak, and this was followed by giddiness. Cold sweats and rigors were also felt, as well as severe headache. He gradually became more exhausted and then lost all recollection.

Pentre, Rhondda. PHILLIP GIBBIN.

VOLVULUS NEONATORUM.

I WAS extremely interested in the article by Mr. Norman M. Dott in the BRITISH MEDICAL JOURNAL of February 5th, 1927 (p. 230), and for statistical purposes should like to record a case of volvulus that occurred in my practice.

A full-term male child, weighing 7¼ lb. was born on March 14th, 1927. No meconium was passed for some four hours after birth, when about two teaspoonfuls were expelled. Thirty hours after birth the child refused the breast and appeared to be in pain. The abdomen was slightly distended, but the general appearance was good. An enema (1 drachm of glycerin to an ounce of water) brought away about a dessertspoonful of meconium. Six hours later there had been no further passage of intestinal contents, and the abdomen was more distended. Rectal examination failed to locate any abnormality. The next morning, or fifty-two hours after birth, as obstruction was evidently complete, a small amount of mucus only being passed after rectal examination, operation was decided upon. The baby was extremely ill, and the father was given the option of refusing the operation, as the chance of success seemed so remote.

Under open ether the abdomen was opened, and a condition identical with that described by Mr. Dott was found. The volvulus was of the small intestine, the twist being in clockwise direction and through 360 degrees. The intestine was extremely dilated above the site of the stricture, which was marked by a transverse yellowish-white line, almost gangrenous, owing to pressure. This occlusion of the bowel was about eighteen inches below the upper end of the jejunum. The baby died some four hours after the operation.

I must congratulate Mr. Dott on his masterly description of the symptoms and probable etiology of the condition, but would like to point out one or two points of difference. In this instance the volvulus must have been present at birth, or more meconium would have passed. There was at no time any faecal material passed.

There was little vomiting, this being due probably to the fact that the site of obstruction was some inches down the jejunum, and not at the third part of the duodenum. The baby hiccuped and brought up a few mouthfuls of water towards the end. The abdominal distension was general, and by no means limited to the upper abdomen, this being accounted for by the same reason.

I think that all cases of volvulus neonatorum should be investigated fully, and reported so that practitioners may be more on the look out for them. In view of the fact that volvulus is such an eminently relievable condition should a diagnosis be made early enough, we should have the possibility of its occurrence always in mind, instead of dismissing it once examinations are over. I believe that had we been bold enough to operate when this baby was but forty-eight hours old, we might have saved him.

F. M. SPENCER, M.D.,
F.R.C.S.Ed.

Hamilton, New Zealand.

DOUBLE TUBAL PREGNANCY.

THE following case seems of sufficient interest to warrant placing on record.

A married woman, aged 30, with one child, 16 months old, was admitted to hospital on June 19th, 1925, complaining of pain in the lower part of the abdomen, chiefly on the right side, near the middle line, about three inches above the pubes. The pulse was 80 and the temperature normal.

Menstruation had been normal until April, the first day after last period being the 23rd of that month. On May 30th she felt a sudden acute pain in the abdomen, which was followed by a gush of blood from the vagina. This flow continued for about an hour, when the pain disappeared. She had not done anything of a strenuous nature to account for these phenomena. There was no more pain until June 14th, when the same thing occurred in the afternoon. The following day, after a bath, there was another gush of blood, which soon ceased, and, on June 17th, whilst out walking, the violent pain recurred, but was unaccompanied by the usual haemorrhage. On June 19th she was sent into hospital by her medical attendant as a case of suspected tubal pregnancy.

On admission the patient did not look very ill, and pulse and temperature were normal. Marked tenderness was found at a spot about three inches above the pubes and two inches from the middle line on the right side. Vaginal examination was very difficult, as the patient was somewhat hysterical, but a lump was located to the left of the uterus. As there were no urgent symptoms the patient was put to bed and watched. The next day a thorough examination was made under a general anaesthetic.

The uterus was slightly enlarged, and Douglas's pouch was felt to be boggy. Nothing much could be made out to the right of the uterus. There was a lump about the size of a small hen's egg to the left of the uterus. Operation was carried out under open ether anaesthesia, and a ruptured tubal pregnancy was found on the right side. The tube was removed and the pelvis cleared of blood clot. The lump on the left side proved to be an unruptured tubal pregnancy, which was removed. The patient made an uneventful recovery.

N. P. JEWELL, F.R.C.S.I.

Nairobi, Kenya.

HYDATIDIFORM MOLE.

THE following case seems worthy of record, both because of the response to treatment and the rarity of the condition; Madame Boivin of Paris found it in one of 20,000 cases, and Clifton Edgar four times in a series of 15,000.

A multipara, aged 33, with a previously uneventful obstetrical history began to suffer from irregular bleeding and slight "bearing down" pains; the uterus was enlarged to the size of a three months' pregnancy. She was vague as to dates, but had had amenorrhoea. All bleeding ceased under appropriate treatment.

A month later I was called urgently and found the patient in a critical condition. She was bleeding profusely, was extremely blanched, and the pulse was almost imperceptible. Some vesicles had been passed and established the diagnosis. Measures, amongst which was the injection of pituitrin, 1/2 c.cm., were used to counteract the shock. When the patient's condition warranted, the uterus was cleared by the gloved finger with due asepsis, and another dose of pituitrin, 1/2 c.cm., administered. Stypticin was subsequently given by the mouth in the recommended dosage. In four days the bleeding was reduced to a mere stain, and in seven days had entirely ceased. There have been no further symptoms. Pathological examination showed no evidence of chorion epithelioma, but the possibility of its later occurrence is not lost sight of.

The points of interest are: (1) the immediate control of the haemorrhage by stypticin, and (2) the fact that, apart from the "doughy" feel attributed to the uterus in this condition, there appears to be little on which to base a diagnosis when the cervix is undilated, as was the case when this patient was first seen.

I am indebted to Dr. L. A. Mackenzie of Bradford for permission to publish this note.

HENRY P. O'KEEFFE, M.R.C.S., L.R.C.P.

Westgate-on-Sea.

INFLAMMATORY SEALING OF THE EXTERNAL OS CAUSING DELAY IN LABOUR.

THE following case is placed on record because of the extreme rarity of the condition.

A woman, aged 42, who had had ten pregnancies, was admitted to the Birkenhead Maternity Hospital on April 1st. Her seventh, eighth, and ninth pregnancies had all ended in miscarriage, and she had been curetted after the last two of these. She had suffered for years from a chronic vaginal discharge, and latterly there had been prolapse of the uterus with rectocele and cystocele.

On admission the patient showed definite evidence of myocarditis with albuminuria.

Labour began at 6 a.m. on April 29th, and eight and a half hours later I was called to the case. The pains were then very severe and frequent, and accompanied by bulging of the perineum and extrusion of the vaginal wall through the vulva. Examination with the gloved hand revealed a smooth, tense, rounded swelling which completely filled up the cavity of the pelvis, and came well down on the pelvic floor with each pain. Through this swelling a foetal head could be felt, but not a trace of cervix or external os could be made out. The gloves were then dispensed with, and the ungloved fingers could just detect a very faint furrow about half an inch long, running in the line of the diagonal conjugate, on the surface of the swelling. This furrow was carefully deepened with the tip of the finger and finger-nail, and after considerable resistance it resolved itself into the external os, through which a bag of membranes immediately protruded. The presentation was left occipito-anterior, the patient's condition did not cause any anxiety, and about an hour and a half later a healthy child, weighing 7 lb., was born without further difficulty or intervention.

RIBTON BLAIR, *M.C.*, M.B., B.Ch.

Birkenhead.

APPENDICITIS IN AN INFANT.

THE following case seems worthy of record owing to the youth of the patient, as the youngest case I can find recorded was 7 weeks old.

A baby, 12 days old, was admitted to the Bristol Royal Infirmary on January 25th, 1927, with a history of one day's swelling of the right side of the scrotum. Vomiting occurred once, and the infant did not take the breast well, but did not seem in pain, unless the scrotum was touched. The temperature was 101°, pulse 160. There was a hard swelling of the right side of the scrotum and inguinal canal, with redness of the skin over the swelling. Mr. Rendle Short operated about two hours after admission. A scrotal hernia was found, containing the caecum and a gangrenous appendix. The appendix was removed. Apart from a small faecal fistula the child made an uneventful recovery.

I am indebted to Mr. Short for permission to publish this case.

C. I. HAM, M.R.C.S., L.R.C.P.,
House-Surgeon, Bristol Royal Infirmary.

Reports of Societies.

MEDICAL ASPECTS OF HAEMATURIA.

A MEETING of the Section of Urology of the Royal Society of Medicine was held on April 28th, the President, Mr. W. GIRLING BALL, in the chair. The discussion was opened by Sir THOMAS HORDER, whose paper is published in full at page 993 of this issue of the JOURNAL.

The PRESIDENT said that Sir Thomas Horder's remarks had illustrated the desirability of collaboration between physicians and surgeons in such a field as this. Many cases which used to be called essential haematuria were now, as a result of more perfect methods of investigation, classified in other categories.

Dr. GEORGE GRAHAM thought it remarkable that in a series of cases covering five years in the medical wards there should not have been an instance of oxaluria. A case of haematuria in an elderly woman had come under his

observation, and there had appeared to be nothing to account for the condition except the fact that she had been eating a great deal of ginger. The oil of ginger, though not so potent as turpentine, was said to cause haematuria.

Sir JOHN THOMSON-WALKER said that it did not seem to have been brought out quite clearly whether haematuria was the primary or most important symptom, or was only a secondary symptom. At the same time, having had doubts on the subject, he had been convinced by Sir Thomas Horder that there were medical cases of haematuria, or medical aspects of the condition. Sir Thomas Horder, in speaking of the prostate, had appeared to imply that more haemorrhage was likely in a malignant prostate; but, in fact, haemorrhage occurred much more easily and freely from a large oedematous prostate than from a malignant prostate.

Mr. HUGH LETT said that in his experience the worst haemorrhages in connexion with enlargement of the prostate occurred in cases in which stone was present in the bladder as well.

Mr. SWIFT JOLY asked whether in chronic interstitial nephritis it was the common experience to find the bleeding unilateral. He had cystoscoped three of these cases, and in all of them the bleeding came entirely from one kidney.

Mr. CYRIL NITCH said that he knew of one man who by accident was given a concentrated solution of hexamine, receiving 480 grains of the drug, and it did not have the slightest effect in causing haematuria.

Sir THOMAS HORDER, in reply, agreed with Dr. Graham that either oxalic "storms" were not as common as they used to be or that our views of the significance of oxalic crystals in the urine had altered; he was not sure that years ago they did not take the presence of such crystals too seriously. He would not suggest enucleation of the tonsils at a stage in acute nephritis when the renal function was very deficient. He proceeded early with enucleation in a case in which the state of the tonsils seemed to indicate that procedure, but during a relatively quiescent phase in the disease. The physician saw all cases of haematuria as medical cases until he proved them to be surgical, but the surgeon saw all cases of haematuria as surgical until he proved them to be medical. Provided both physician and surgeon pursued their respective methods of approach to the end, the patient got the benefit either way. There was no connexion between his remarks that evening and his earlier paper of some years ago on renal decapsulation. He had been speaking on that occasion of a particular type of nephritis which he thought was eminently amenable to surgical treatment. That was quite a different type of case from any he had been discussing that evening. He was not quite sure that there was not a possible fallacy in Sir John Thomson-Walker's reference to areas of fibrosis in kidneys removed on account of bleeding. Might those areas not be the result of the bleeding into the kidney rather than the cause of it? If these patients bled from the pelvis, then any changes found microscopically in this situation after the kidney was excised, or detected *post mortem*, might be regarded as presumptive evidence that this lesion was associated with the bleeding. But if the bleeding occurred into the kidney substance, might not the fibrosis found afterwards be the effect of these haemorrhages? He was interested in Mr. Lett's reference to the fact of congenital cystic disease causing haemorrhage. He had not seen a severe haemorrhage in congenital cystic disease. He supposed that if the patient was dying of the haemorrhage it would be justifiable to remove the affected kidney, even with the knowledge that the other kidney was diseased, as indeed it always was. Mr. Joly had referred to epistaxis in chronic interstitial nephritis, and to the fact that the haemorrhage was unilateral at times; he would be interested to know of Mr. Joly's experience. He had not himself obtained proof that such unilateral bleeding did occur, but he was not surprised to hear of it. He would suggest that probably this was more often the case than not, for surely this "renal epistaxis" was more a matter of diseased arteries than of diseased kidney tissue. So also in cerebral haemorrhage. The patient, as a result of cerebral haemorrhage, suddenly developed hemiplegia, when considering himself to be quite well.

PERINEAL PROSTATECTOMY.

AT the meeting of the Section of Urology of the Royal Society of Medicine on May 26th, Mr. GIRLING BALL presiding, an address on prostatectomy was given by Professor HANS WILDBOLZ, of Berne.

Professor Wildbolz advocated the perineal operation, which, he said, was performed seldom in this country, but which was favoured by many Continental surgeons and by a school of surgery in the United States. He opposed the performance of prostatectomy as a prophylactic measure; it was never a harmless intervention, and it was only required when the patient was in real danger. He dwelt at length on the tests of renal function now generally employed before deciding upon operation, and gave the figures obtained with his patients for the blood urea test, the phenolphthalein test, and the test for determining the specific gravity of the urine by freezing. He added that no reliance should be placed upon any one kind of determination, but only upon a comparison of several. With regard to the blood urea test, a high quantity of urea certainly forbade prostatectomy, but a normal quantity was no proof of renal adequacy. Renal function would improve quickly under treatment, with intermittent or continuous drainage by catheter, and the patient would become in a few weeks fit for operation. The lecturer went on to claim certain advantages for perineal prostatectomy as against the suprapubic operation. The perineal method, in his opinion, produced far less shock. Moreover, suprapubic intervention was followed by an increase of blood urea during the first days after operation, while perineal prostatectomy hardly ever caused such an increase. Only 18 per cent. of the patients upon whom he had performed the perineal operation showed an increase in blood urea, and that only of a trifling order; while many patients showed a lowered quantity. The perineal operation did not cause nearly so much bleeding as the suprapubic, nor did it damage so seriously the tissues of the neck of the bladder. Professor Wildbolz gave a brief description of his technique, illustrated by a series of coloured drawings of the different stages of the operation, and explained wherein his own procedure differed from that of Young and others who also practised the perineal method. He drew attention especially to his complete resection of the part of the prostatic urethra which was encircled by the adenoma, also the suture between the neck of the bladder and the urethra, and the suture of the incised prostatic capsule. Little damage was caused to the tissues by his operation, and the only bleeding of any importance was stopped nearly completely by his method of sutures. Serious post-operative bleeding very rarely happened. He had seen symptoms of sepsis in only four out of three hundred operation cases, which he thought was a better record than that of the suprapubic method. His tabulated results for 300 perineal prostatectomies showed a mortality of 6.5 per cent., whereas the mortality he had had previously with the suprapubic method of operation was 15 per cent. In 227 patients recovery followed within two weeks of the operation; in 44 cases within three weeks; in 22 cases within four weeks, and in only 7 cases was the period before recovery prolonged to five weeks or more. By some mischance lesion of the rectum occurred in 7 cases out of the 300, and in 11 some incontinence persisted, not, however, of a serious character, but usually a dribble if the patient sneezed or laughed. He urged British surgeons to give perineal prostatectomy a trial.

Sir J. W. THOMSON-WALKER said that it was rather a bold thing to recommend another method in London, where all urologists were performing the suprapubic operation, not because of antipathy to any other, but because it best suited them. Professor Wildbolz had criticized the tendency to operate early, more or less as a preventive measure. Sir J. W. Thomson-Walker had been one of those surgeons who had always advocated early operation in enlarged prostate, on the contention that a large number of enlarged prostates at the present time were neglected too long. The symptom of frequency of micturition had been looked upon as a physiological condition of old age, and its true significance in relation to the prostate had been disregarded. Every old man who had frequency of micturition ought to

be examined to see if he had any residual urine. If all the cases which were known as "silent prostates" were examined the condition of enlarged prostate would be found at an earlier stage than at present. With regard to tests for renal function, urologists had seen many of these come and go, and he was interested to notice that Professor Wildbolz had again advocated a test which was much used in this country twenty years ago, showing the specific gravity of the urine by freezing. The disadvantage of this test was that it was too variable under a slight change in the condition, such as sweating or a little diarrhoea or fever. The test which most British surgeons employed was that of the urea, but no determination by itself was quite reliable. The question with all tests was how far they ought to be allowed to decide surgical action. It was pleasant to think that a figure could be obtained from the laboratory to determine whether prostatectomy should or should not be performed, but in fact this could not be forthcoming. The only use of these tests was to show that operation was attended by a greater or a less risk; they must be used as a guide, not as a bogy. Patients could not be refused prostatectomy on all occasions where the urea was low in the urine or where the kidney tests were not good. Professor Wildbolz had given certain reasons for thinking that the perineal operation was better than the suprapubic. He had said that it did not raise the blood urea. But the suprapubic operation in itself did not raise the blood urea; it was the operation of draining the bladder which did so. With care it was possible to operate with higher blood urea concentrations even than 80 mgm. in 100 c.cm. With regard to shock, he could not see that the patients upon whom suprapubic operation was performed suffered greatly. Shock was largely a question of haemorrhage, and really serious haemorrhage was now not often found after prostatectomy. Nor did he think there need be as much sepsis as Professor Wildbolz had suggested. Quite often his own patients healed with clear urine; he could not always secure this, and it required a great deal of care, but it was not impossible. The mortality figure of 15 per cent. for suprapubic prostatectomy which Professor Wildbolz had mentioned might have been correct years ago, but it was not true now. In his last 156 cases the mortality was 4.4 per cent., which was below the figure (6.5) Professor Wildbolz had given them for the perineal operation.

Mr. RALPH THOMPSON stated that he had performed 25 perineal prostatectomies. It was not a question of what was advised by one school or another, but of what should be done for a particular patient. There were a great many prostates for which perineal prostatectomy would be preferable to the other, and vice versa. In his few cases of perineal prostatectomy shock seemed to be very much reduced. He thought, however, that there was less bleeding with the suprapubic than with the perineal. With regard to malignant disease of the prostate, provided they were certain of its extent, the perineal route was the better. But there was one great disadvantage attending the perineal operation; the smaller the adenoma the greater was the likelihood of incontinence after operation, and because this was so distressing, he felt inclined, after having performed 25 such operations, to do no more perineal prostatectomies.

Mr. JOCELYN SWAN urged that reliance should be placed on a combination of tests, not on one test, of renal function. As for the perineal operation, he had reserved it for early malignant disease. Mr. PANNETT urged that the haemoglobin estimation should be made before every prostatectomy. He believed that there was less shock after the perineal operation, and certainly one had a better view of the prostatic pouch by that route. Mr. FRANK KIDD had always felt that the perineal operation was more scientific, and he thought it safer, provided always that it was done by a surgeon thoroughly conversant with the technique; otherwise it could be much more disastrous than the suprapubic in hands similarly inexpert.

Professor WILDBOLZ, in a brief reply, said that the main objection brought against the perineal method appeared to be persisting incontinence. But in fact, in his own 300 cases, he had had not a single instance of permanent incontinence, and in the eleven cases in which incontinence had continued for more than a few days it was of a trifling character and entirely disappeared within a few months.

PROPHYLAXIS OF MEASLES.

AT a meeting of the Section of Epidemiology of the Royal Society of Medicine held on May 27th, with the President, Dr. S. MONCKTON COPEMAN, F.R.S., in the chair, Dr. W. S. C. COPEMAN read a paper on the prophylaxis of measles, with a suggested scheme for dealing with epidemics.

Dr. Copeman first briefly discussed the infectivity of measles, its mortality, and the present methods of prophylaxis. He then reviewed the history of serological methods of prophylaxis and described in some detail the methods of collecting, preserving, and employing the serum of convalescent cases of measles or of adults who have had the disease in childhood. Since the early days of serum prophylaxis, he said, scientific opinion had gradually been turning from the desirability of producing a passive immunity in time of danger to that of producing an active immunity at an earlier period. One of the methods of employing serum—"sero-attenuation," preferred by Debré and others—had the double merit of being applicable during an epidemic and yet of producing active immunity. Reviewing the results published and his own experience, Dr. Copeman put forward the following conclusions:

1. That the serum or blood of persons who have, in the past, suffered from, or are convalescent from measles, has a definite prophylactic value in this disease.

2. That if it be injected in sufficient dose, during the first five or six days after injection it will produce a passive immunity which will last for some weeks; whilst if injected between the fifth and ninth day of the incubation period, a modified form of the disease will develop, which in turn leads to the establishment of an active immunity which some observers consider to be permanent. That if it be injected later than this, no benefit will result.

3. That in the absence of certain contraindications, which have been mentioned, it is better to allow an attenuated form of the disease to develop ("sero-attenuation") than to rely on renewing the patients' passive immunity in time of danger by means of serum.

4. The use of convalescent serum in this latter way ("sero-prevention") should be limited, normally, to children under 3 years of age, since these supply 70 per cent. of the measles mortality. In this way the disease may be warded off until the child is of an age when it is no longer so dangerous. It is also indicated in the case of children suffering with tuberculosis, rickets, diphtheria, whooping-cough, and in feeble children, in very cold weather, and in institutions.

5. The prophylactic dose of serum has to be increased in direct ratio to the time of exposure to the disease.

Dr. Copeman then outlined his suggested scheme for dealing with measles epidemics, explaining that this was based on the creation of a centre for the distribution of prophylactic serum, and that it was a potpourri of the writings and ideas of many workers, notably of Debré and Godfrey. Following a recommendation of the Academy of Medicine of Paris in 1925 two centres were established for the collection and storage of serum from cases of measles and whooping-cough. At the centre to which Dr. Copeman was attached for a time 10 litres of serum, or 2,000 protective doses, were collected in the first five months, and this was sufficient for all needs. The aim at present, in England, was to prevent every case of measles, and the measure of success may be judged by the fact that about 90 per cent. of adults had suffered with the disease. In the light of present-day epidemiological knowledge, it appeared to be a policy of doubtful wisdom to endeavour to do so, unless adequate artificial immunization were insisted upon, since sooner or later, if we were successful, the infection would return, and, finding virgin soil, the tragedy of the Faroe or the Fiji islands would be repeated, on an even larger scale. P. L. Marie's terse statement, "le but n'est pas tant de faire disparaître la maladie de la face du monde, que de reculer son apparition jusq'à un âge où les risques qu'elle fait courir deviennent très minimes," summed up the outlook towards the disease which should become general in this country. We should endeavour, by means

of efficient organization, with clear-cut aims and methods, to *control* the disease, rather than to stamp it out. Since 70 per cent. of all deaths from measles occurred under the age of 3 years, it was during these fatal first three years that we must eliminate the disease; postponing it, if necessary, until the child was over this age and therefore more able to combat it. Few healthy children over 5 years died of measles. It had been well said that measles attacked without distinction, but killed with discrimination. If we could accomplish this, a great step forward would have been taken by reducing the mortality, if not the morbidity, of measles. The methods by which it would become possible to achieve this aim were twofold. First, a skeleton corps of trained public health workers, who would have the power to call upon less specifically trained workers in allied departments, such as welfare centres, since the need would be for a large body of workers for a short time. Secondly, a knowledge of the whereabouts of the children under 3 years whom it was desired to protect. This system would obviously be easier of application in large towns than in smaller places, and since measles appeared to be more fatal in these areas, apart from the case morbidity, this seemed to some extent a provision on the part of Providence. Compulsory notification would have to be instituted.

Dr. Copeman suggested that a serum-collecting station, comprising a small laboratory and waiting room, and preferably attached to some institution where measles cases were available, should form the centre of every unit of the scheme; a unit would in most cases comprise a large town, and the medical officer of health would be the central authority for the unit. The personnel of the centre would form the "skeleton corps" of trained men who would, in time of epidemic, take control of it under the supervision of the medical officer of health. Between epidemics they would collect a store of both adult and convalescent serum as opportunity arose, and work on the following lines:

1. To educate the parents of small children in the belief that epidemics could roughly be predicted; thereby preparing the ground for a future campaign.

2. To educate parents in the belief that measles in children under three was dangerous, and the younger the child the more dangerous the attack, and that it was dangerous at any age if the child were weakly. They must beware of saying that "measles is dangerous" without specifying "under three," since the public knew that in older children it was not particularly dangerous.

3. To make it known that serum was available for these cases, but that its amount was limited, and that donors (voluntary or compensated) were continually required to "save the children." This personnel could visit the scene of epidemics and deal with them on the spot, on application from general practitioners. They need not limit their activities to measles, although this would be advisable in the initial stages.

The chief available channels for this propaganda were the newspapers, private doctors, occasional public lectures on more or less popular lines, and notices, such as were displayed in some boroughs. In addition, the staff concerned should have at their disposal a card index, containing the names and addresses of all children under 3 years of age in their area. This could be managed easily if duplicated copies of birth certificates reaching the medical officer of health were sent to them. This would probably account for more than 90 per cent. of the true number of births. The names of the children could be indexed by streets or districts, and all notifications and child death certificates would be sent through this department. The names of cases on their index thus known to have died or had measles would be removed. The index would be revised every year by removing all those cards relating to children more than 3 years of age.

The paper was followed by a brisk discussion, which was opened by Sir GEORGE BUCHANAN, who outlined what were, in his opinion, the chief difficulties in the way of Dr. COPEMAN'S scheme. He thought, however, that it should be tried on a small scale to begin with, and that this would be an interesting and valuable experiment. He was followed by Sir WILLIAM HAMER, Dr. J. D. ROLLESTON, Dr. J. GRAHAM FORBES, Dr. O'BRIEN, Fleet Surgeon HOME, and others, all of whom expressed interest in the paper and the proposed scheme, and hoped that it might be possible to try it in this country.

ANTE-NATAL PREVENTION OF DIFFICULT LABOUR.

AT a meeting of the Forfarshire Medical Association on April 21st, at University College, Dundee, the President, Dr. R. C. BUIST, in the chair, Professor J. A. KYNOCH opened a discussion on ante-natal measures for the avoidance of difficult labour.

Professor Kynoch said the chief aims of supervision of pregnancy were, in the early months, to preserve the pregnancy, and in the last three months to foresee and prevent difficulties and complications in labour. To be of most value, ante-natal supervision must begin early in pregnancy. In malpositions a transverse position could always be corrected by external version even up to the commencement of labour. With a breech presentation in a primiparous patient an attempt at conversion should always be made by external version, but not until the last week or two, since, if performed earlier, there was apt to be a return to the old position. In occipito-posterior positions he advocated the use of pads and binders, as recommended by Dr. R. C. Buist. Another cause of difficulty in labour was undue prolongation of pregnancy. If the patient could give accurate dates, and the pregnancy lasted fourteen days beyond the expected time, then induction of labour should not be delayed. In connexion with pelvic deformity as a cause of difficult labour, pelvimetry during pregnancy was of great importance. It was well, however, to remember Barbour's axiom: "The child's head is the best pelvimeter." Failure of the head to enter the brim in the last weeks of pregnancy in a primiparous patient must always be taken as a warning of possible trouble. *X*-ray examination was occasionally of service in ante-natal diagnosis, especially in breech and transverse presentations and in multiple pregnancy. It was also of value in the diagnosis of some of the rarer varieties of pelvic contraction. In conclusion Professor Kynoch remarked that modern life did not predispose to an easy labour. He added that the excessive craze for athletics might favour in young women the occurrence of the male type of pelvis with its obstetrical disadvantages.

Mr. A. E. CHISHOLM emphasized the importance of abdominal examination, and advocated measurement of the fundus in estimating the time of labour. In locating the foetal heart sounds the Pinard stethoscope was of the greatest value.

Dr. GEORGE WHYTE was in favour of combined abdominal and vaginal examination. One cause of difficulty was an unusually large child with labour occurring at the right time; here also induction might be indicated.

Dr. JAMES STALKER, while agreeing that abdominal examination was preferable, found that he had to rely very much on vaginal. The most difficult position to diagnose was the occipito-posterior. For listening to the heart sounds, he preferred the stethoscope he used every day.

Dr. GEORGE MILLER also mentioned the difficulty in diagnosing occipito-posterior positions. He agreed that the Pinard stethoscope was of great help.

Dr. MARGARET FAIRLIE thought that in a breech case version should be performed three or four weeks before labour, and pads and bandages applied to maintain the new position. In cases of difficult labour she considered it essential to have an anaesthetist.

Dr. J. M. MORGAN could not agree that there was any special tendency to difficulty in labour in the athletic type. On the contrary he considered that owing to more hygienic fashions in dress, first confinements were becoming easy and rapid in an increasing number of cases.

Dr. F. M. SKAE asked how a hydrocephalic head could be diagnosed with any certainty, especially without vaginal examination.

The PRESIDENT said that difficulties in labour arose in two or three simple ways. There was first the position of the child, requiring chiefly abdominal examination for the diagnosis, and external version and the method of the pad and binder for treatment. Secondly, there was disproportion in size, when induction of labour had to be considered. He described a method of tapping the amnion above the foetal head. The third factor was the power of the patient, which, at times, quinine usefully reinforced.

Reviews.

VACCINATION: HISTORY AND SOCIOLOGY.

THE vaccination controversy, which began after Edward Jenner's inoculation of James Phipps with cow-pox in 1796, is the subject of a work of modest dimensions by Mr. BERNHARD J. STERN,[1] Instructor of Sociology at Columbia University. His interest in the subject is historical and social rather than medical, and he moves among the antipathies of the contending parties with serene detachment.

The first outspoken opponents of Jenner's vaccination against small-pox were Ingenhousz on the Continent, and Sims and Moseley in England. Ingenhousz died within the year, and Sims, though he suspended judgement at first, afterwards became a zealous advocate, but Moseley's hostility was unwavering. "Who knows," he said, "but that the human character may undergo strange mutations from quadrupedian sympathy and that some modern Pasiphaë may rival the fables of old?" Merry of Bath, a practitioner of variolation, held like views. He stated that vaccination was "comparable with incest, introducing into the human body a disease of bestial origin similar to syphilis." The unbridled style was not peculjar to the opposition. Jenner himself was most resentful of criticism, and one of his defenders described those who queried the merits of the cow-pox inoculation as "reptiles that plant themselves in the high road of improvement and try to hiss back all who would advance." When Goldson in 1804 proposed that experiments should be instituted to determine whether there was not a limited period to the preservative power of vaccination, Ring of the Royal Jennerian Society, then in its second year, wrote that the society, fully convinced of the absurdity of the hypothesis, did not think it necessary to comply with his request. Yet Goldson's idea was correct. Through such exchanges and in other ways some popular feeling was aroused, and in 1808 the Royal Jennerian Society had to close its doors.

Notwithstanding opposition in various quarters, however, the vogue of vaccination grew. The Jennerian Society was succeeded in 1809 by the National Vaccine Institution, and the Vaccination Act of 1840 provided for gratuitous vaccination. But with the passing of the Vaccination Act of 1853, which made vaccination compulsory, the conflict took on new vigour. Hitherto mainly an affair of experts contending on points of medical practice, it transferred itself to a wider field. It was a question now for the people of England. The cause was the sacred cause of freedom. The opposition availed themselves of the weapons thus supplied. They obtained religious support. They founded the Anti-compulsory Vaccination League. Evasion of the Act, despite prosecutions, became persistent, and in some areas the measure was a nullity. Great protagonists came down into the arena. John Bright and Herbert Spencer were opposed to compulsion. A. R. Wallace said that liberty was greater than science, and that vaccination was a terrible blunder. The plea of sanitation as an alternative to vaccination enlisted the active support of thousands. The Leicester experiment was undertaken. The Royal Commission sat and reported, and the Vaccination Act of 1898 recognized the position of the conscientious objector, who in 1907 was awarded the further concession of the statutory declaration.

Such, in summary, was the course of the vaccination controversy in England as surveyed by Mr. Stern. Analysing its motives, he comments on the intolerance of Jenner and his allies. It must be recalled, however, that they were intensely in earnest. They had found the preservative for the scourge of their times. Mr. Stern thinks that the early opponents were insincere, desiring to keep variolation alive on interested grounds. Some perhaps were disingenuous, but others were doubtless honest, if self-conceited, brethren, "giving liking to nothing but what is framed by themselves." Medicine, as well as the Church, has witnessed such, both then and since. Both sides used strong language, and with expressions like "incest" and "reptiles" flying, it is easy to see how the dispute thus early assumed an intemperate character which to some extent set the tone of its later phases. The agitation which followed the compulsory Act of 1853 was inspired by a new motive, quite genuine on the part of many. They were concerned for liberty. The Englishman's right, as Dr. Gregory had put it, of going to the devil in his own way, appeared to be at stake. But the antivaccinationists, pursuing their ends, diligently fanned the popular prejudice and imported into the campaign a good deal of the acrimony which had made itself apparent earlier in the movement.

The same kind of opposition as was met with in England was experienced in America and European countries. Vaccination throughout has suffered from the fact that it was a prodigy at the time of its birth. Had it seen the light first a hundred years later, in a world which was better informed, it would probably have aroused as little antagonism as diphtheria antitoxin.

[1] *Should We be Vaccinated?* By Bernhard J. Stern. New York and London: Harper and Brothers. 1927. (Cr. 8vo, pp. 146. 1.50 dollars.)

THE EGO.

THE nature of that elusive entity—the ego—has been the subject of much speculation throughout the ages, and many are the egos which have been conceived by the minds of philosophers. Thus there is the empirical or objective ego of the academic psychologist. This is just an object like other objects which becomes differentiated from the external world by the individual in the course of his mental development. For William James "the empirical self of each of us is all that he is tempted to call by the name of *me*." When this *me* is introspectively studied it is found to have fairly constant and somewhat uninspiring constituents: a visual perception or idea of the body, organic and kinaesthetic sensations, and the verbal ideas of "I" and "my." Titchener, who writes with authority, informs us that the usual pictorial image of the self consists in a picture of the body in some unaccustomed dress or posture. Certainly the idea we have of ourselves is very different from that which other people have of us. Then there is the intangible subjective or "transcendental" ego of Kant. This has no positive attributes, cannot be directly known by introspection, and from it nothing can be deduced. It tells us, in contrast to the empirical ego, "not how we appear, not how we inwardly are, but only *that* we are."

In contrast with this nebulous and unknowable ego is the personified unconscious "super-ego" which FREUD has discovered in the course of his psycho-analytic investigations. The functions, attributes, activities, origin, development, and location in the mind of this new entity are described in a monograph entitled *The Ego and the Id*.[2]

This super-ego or ego-ideal may be said to be already known to us in a measure as it would appear more or less to correspond to the "still small voice" of conscience. It is the hidden force, so Freud believes, which dominates and restricts the actions of the conscious personality. It is the "Thou shalt" of the moral law; the categorical imperative of Kant—"An imperative, which, irrespective of every ulterior end or aim, commands categorically." Freud states that the super-ego develops from the father-complex; it is the representative of our relation to our parents. When we were young we admired and feared them, and later we took them into ourselves, and they became unconsciously part of our own personality. Further, though this super-ego is amenable to later influences, it preserves throughout life the character given to it by its derivation from the father-complex—namely, the capacity to stand apart from the ego and rule it. It is a relic of the former weakness and dependence of the ego, and the mature ego remains subject to its domination throughout life. As the child was once compelled to obey its parents, so the ego submits to the categorical imperative pronounced by its super-ego. It is this unconscious part of our ego which Freud considers is responsible for the higher moral, spiritual side of our natures, and which is also the repressing force which inhibits the "id" (the primitive,

[2] *The Ego and the Id.* By Sigm. Freud, M.D., LL.D. Authorized translation by Joan Riviere. The International Psycho-Analytical Library, No. 12. London: L. and V. Woolf, the Hogarth Press. 1927. (Roy. 8vo, pp. 88; 1 figure. 6s. net.)

instinctual, non-moral unconscious) from invading the psychic life and controlling the behaviour. Briefly, it appears to be Freud's much criticized and hitherto undefined *censor* whose function it is to protect the conscious mind (both waking and sleeping) from the encroachments of the primitive life impulses.

A different view as to the nature of the ego or "kernel of the personality" is expressed by Dr. WILLIAM BROWN in his recent book on *Mind and Personality*.[3] The aim of this volume is to consider the general problem of personality from various points of view, and to attempt to adjust them to one another. With this end in view he discusses his thesis from the standpoints of biology and physiology, of the various schools of psychology, psychopathology, logic, ethics, and metaphysics, and finally from that of the theory of religious experience. As a result of these studies he arrives at the conclusion that, in addition to the self or mind which the psychologist deals with, there is a something which expresses itself in the realization of the absolute values—truth, beauty, and goodness—and which constitutes the soul or true ego of man. Briefly, he takes the view with which the Dean of St. Paul's has made us familiar, that the world of values, which forms the content of idealistic thought and aspiration, is the real world; and that in this world we find our own immortality.

Leaving aside any question as to the validity or otherwise of the mystical doctrine to which Dr. Brown gives his adherence, there is something to be said for the view that an appreciation of values is part of the innate equipment of mankind. Further, goodness, as distinct from conventional morality, is a quality which often appears to emerge quite naturally in the course of mental development, and independently of impositions from without or within. There would seem to be something pathological in the personified conscience or super-ego which Freud regards as responsible for the development of spiritual qualities in mankind, though we do not question the importance of parental influence in the formation of character. What are termed ethical relations appear to be a natural development of the powers of life in a social medium; they represent the emotional aspects of the mutual adjustment between the elements of the social aggregate which are essential for its continuance and development. It may be pointed out, also, that animals often exhibit behaviour to which the term "ethical" may be suitably applied. In such cases the "goodness" is clearly natural and unconscious, and there is no necessity to assume the existence of a super-ego to account for its occurrence.

TREATMENT OF VENEREAL DISEASE.

OF late years numerous works—good, bad, and indifferent—have appeared on the diagnosis and treatment of venereal disease. The recognition of the importance of venereal disease as a factor in national health and the establishment of free clinics throughout the country have stimulated the interest of the profession in what was once a neglected branch of medicine. Dr. DAVID LEES's recently published book[4] on this subject has the advantage of being eminently practical in its outlook. The author is lecturer in venereal diseases to the University of Edinburgh as well as surgeon in charge of the venereal department in the Royal Infirmary and the Royal Maternity Hospital. He has therefore at his disposal an enormous amount of clinical material, as well as a special knowledge of the needs of university students and post-graduates. His book, which is the outcome of his work at Edinburgh, is intended for the use of students and practitioners, and has no pretensions to be a work of reference. His sense of what the student should be taught has led him to stress the practical side of his subject, and the lesson that he inculcates above all others is that the disappearance of the signs and symptoms of the disease does not necessarily mean the cure of either syphilis or gonorrhoea. Unlike many other authors who have dealt at length with the subject of syphilis and have scamped the more difficult one of gonorrhoea, Dr. David Lees has devoted a large part of his book to the latter subject. It is only the enthusiast who is able to avoid striking a pessimistic note when dealing with the treatment of gonorrhoea, and, fortunately, the author is an enthusiast. Our failure to achieve any substantial advancement in the treatment of this disease during the last ten years has not damped his ardour, and there is no reputable remedy to which he has not given a trial. After dealing with the various antiseptics which may be used for irrigation, and with such local methods of treatment as dilatation and cauterization, he discusses vaccines. In his opinion an autogenous vaccine prepared from the patient's own organisms is not in general so effective as a polyvalent detoxicated vaccine. The explanation, he considers, is to be found in the fact that the infecting organism does not, as a rule, serve as a good antigen, but that with the use of a polyvalent vaccine containing numerous strains there is a greater probability of obtaining some of better antigenic value. The ideal would appear to be the combination of a polyvalent detoxicated gonococcal vaccine with an autogenous vaccine of the patient's infecting organism. By this combination is obtained polyvalency and strong antigenic properties, and at the same time absolute specificity. The treatment that he advocates in both male and female may be summed up as follows: local antiseptic therapy by irrigation, instrumental treatment to establish good drainage, prostatic and vesicular massage to open up all foci of infection and provide them with a good blood supply, and, finally, the use of a vaccine as a means of increasing the patient's resistance to the infecting organism. A useful feature of the book is the addition of formulae likely to be of service in the treatment of venereal disease. The work is illustrated by photographs obtained from the author's own cases; they have been well chosen and, without being unnecessarily numerous, are such as to serve their purpose of rendering the text more easily understood. We can confidently recommend *Diagnosis and Treatment of Venereal Diseases* to all students and practitioners wishing to bring up to date their knowledge of venereal disease. It should acquire a popularity as great as that enjoyed by Colonel Harrison's book on the same subject.

Treatment of Venereal Disease in General Practice,[5] by E. T. BURKE, has been written for practitioners undertaking a certain amount of treatment of venereal disease. The author in his preface complains that medical bookshops are lumbered with colourless tomes on venereal disease, stamped with the hall-mark of mediocrity and giving the impression that the treatment of venereal disease is bristling with difficulties that can only be overcome by a highly trained specialist; as the result, the practitioner throws up the sponge and salves his conscience by doling out bottles of ineffectual medicine. Though we have here yet another work on the subject, the most hostile critic would find it impossible to apply to it the word "colourless" or to suggest that it is merely a rehash of previously published manuals. From the start emphasis is laid on treatment, and instead of general and somewhat vague therapeutic directions precise instructions are given. In a chapter labelled "Obiter dicta Syphilitica" the author expresses his opinions with refreshing vigour. "To treat the cutaneous manifestations of syphilis as if the disease were merely one affecting the skin, is as sane as painting the leopard's spots yellow and then introducing him into the home as a domestic pet." In discussing the treatment of gonorrhoea, the author speaks forcibly of the use of vaccines. "It is no more justifiable to omit vaccines in the treatment of gonorrhoea than to omit antitoxins in diphtheria." And again: "The chief causes of complicated and chronic gonorrhoea are over-treatment, too early and too frequent prostatic massage, the use of small

[3] *Mind and Personality.* By William Brown, M.D., D.Sc. London: University of London Press, Ltd. 1926. (Med. 8vo, pp. x + 344. 12s. 6d. net.)

[4] *Practical Methods in the Diagnosis and Treatment of Venereal Diseases.* By David Lees, D.S.O., M.A., M.B., F.R.C.S. With an introduction by William Robertson, M.D., F.R.C.P., D.P.H. Edinburgh: E. and S. Livingstone. 1927. (Cr. 8vo, pp. xvi + 606; 87 figures. 15s. net.)

[5] *Treatment of Venereal Disease in General Practice.* By E. T. Burke, D.S.O., M.B., Ch.B.Glas. London: Faber and Gwyer, Ltd. 1927. (Cr. 8vo, pp. vi + 162; 7 figures. 5s. net.)

hand syringes, and the omission of vaccines." Whether we agree or disagree with some of the statements, it is refreshing to find a book which reflects so truly the ideas of the author, and borrows so little from other manuals.

EPIDEMIC DISEASES OF THE CENTRAL NERVOUS SYSTEM.

DR. ARTHUR SALUSBURY MACNALTY has now produced in expanded form his Milroy Lectures delivered in 1925 on the *Epidemic Diseases of the Central Nervous System*.[6] The work is published in an attractive volume of some 200 pages by Messrs. Faber and Gwyer (the Scientific Press). Dr. MacNalty has earned the right, by his well known personal researches as a medical officer of the Ministry of Health, to review with authority the facts which are known, and the hypotheses which exist, with regard to the epidemic manifestations of the three diseases with which the lectures dealt—namely, cerebro-spinal fever, acute poliomyelitis and polio-encephalitis, and encephalitis lethargica.

The earlier chapters are concerned with the various theories which have been advanced to explain the epidemicity of these diseases in general. Dr. MacNalty accepts the view that epidemics have been favoured by the increased opportunities for infection resulting from modern transport facilities, as was seen especially during the war, but is of opinion that this can only be a partial explanation. He is not impressed by the evidence in favour of epidemic cycles in poliomyelitis and encephalitis lethargica, though that as to periodical cycles is well established in the case of cerebro-spinal fever. Neither is he as yet prepared to accept the view that these three diseases are related in some way to pandemics of influenza, and considers it wise still to regard them as separate diseases not arising from some common condition or "epidemic constitution." He is inclined to favour the belief that modern conditions of stress have increased the susceptibility of the nervous system to infection. An interesting chapter on epidemic nervous diseases in animals concludes with the opinion that insufficient evidence exists to associate such diseases with the increased incidence in man of the three diseases under consideration. The history of these diseases is then considered and the evidence reviewed which has gradually accumulated in favour of their epidemic nature. In respect of cerebro-spinal fever and poliomyelitis it is indisputable and well recognized, and especially the importance of carriers, but it is necessarily more scanty as regards encephalitis lethargica. The summary of the evidences of personal infection which the author provides is therefore of special interest.

Succeeding chapters deal with the epidemiological features of each disease in detail, and with the practical principles which arise therefrom in respect of the prevention and control of epidemics. The author's final appeal is for a closer study of the little-explored subject of personal variation in susceptibility to infection, a subject in which the clinician and bacteriologist may well collaborate with the epidemiologist.

SUPERFICIAL RADIUM THERAPY.

THE scope of radium therapy has been widening so rapidly during recent years that a concise and up-to-date account of this line of treatment is desirable, if only as a milestone. Mr. A. E. HAYWARD PINCH, medical superintendent of the Radium Institute, London, has therefore set himself to review the valuable clinical material which has been collected in the course of the sixteen years' existence of that institution in order to define the curative possibilities of this remedy. In his book *Superficial Radium Therapy*[7] he deals with the treatment of growths or lesions which do not extend more than one centimetre below the surface of the body, the apparatus used being unscreened or so lightly screened as to permit the passage of a preponderant beta radiation. Mr. Pinch proposes to issue at a later date a companion volume on deep radium therapy.

In his present book he devotes the first three chapters to the methods he employs, and to the histology of the skin and its appendages. He then considers hypertrophies, new growths, and congenital affections of the epidermis; neoplasms of the corium; angiomata; and inflammatory conditions of the skin. He devotes special chapters to tuberculosis, affections of the hair and mucous membranes, actinomycosis, and pruritus. A prominent feature of the book is a series of forty-eight full-page photographs illustrating the clinical conditions before and after radium treatment. The great mass of information is very skilfully condensed, the arrangement is good, and the various practical points are clearly detailed. Careful revision has removed superfluous descriptions, and the requirements of both experts and novices in radium therapy have been kept in view. The sound, scientific treatment of the subject is refreshing in these days of rather noisy advocacy of therapeutic procedures, and the claims he makes cannot be branded as excessive. The book can be cordially commended to general practitioners, by whom it may be obtained free on application to the secretary of the Radium Institute, 16, Riding House Street, Portland Place, W.1.

TREATMENT OF DIABETES MELLITUS.

THE earlier editions of Dr. OTTO LEYTON'S small guide to the *Treatment of Diabetes Mellitus*[8] appeared before the use of insulin had revolutionized our methods of dealing with that disease. The fourth edition has therefore undergone considerable modifications, and the employment of insulin is discussed. Dr. Leyton considers the treatment of diabetes under three headings: (1) by diet alone; (2) by diet with insulin; (3) by other preparations with or without insulin. Of the third method he says that none of the drugs other than insulin which have so far been tried has proved satisfactory. Some of them lead to a diminution of sugar in the urine, but none of them increases the power of the individual to burn or store carbohydrate, and therefore the benefit derived is apparent rather than real. Moreover, he insists that insulin is only efficacious when administered by hypodermic, intramuscular, or intravenous injection. The truth and importance of these remarks deserve the widest acceptance and reiteration. Nothing can be more distressing than to meet with patients suffering from diabetes mellitus who are led to hope that the mere decrease of glycosuria is an evidence of return to health.

Leyton's advice as to the selection of patients suitable for treatment by diet alone is excellent, and in nothing is his good judgement better displayed than in his criticism of attempts to standardize diet according to the height and weight of the patient. "The energy in the diet of the patient should be," he says, "the least which will allow the patient to maintain his weight and to carry on his work." If the patient cannot tolerate such a diet without a rise of blood sugar above 0.15 per cent., treatment with insulin becomes imperative.

His plan for the use of insulin with diet is simply described and based on sound foundations. He starts with an adequate maintenance diet and finds the dose of insulin required to enable it to be utilized. He does not make the patient fast, nor approach the adequate maintenance diet by gradual steps. He holds that his plan gives the pancreas the necessary rest and nourishment to allow it to regenerate. His experience of the degree of recovery possible even in severe cases may be received with some scepticism by those who have limited their patients' diets and allowed the barest minimum of insulin. His section on prognosis may seem to some readers unduly sanguine, but he is not alone in his experience that if the disease is of comparatively recent origin, and the blood sugar is kept below 0.15 per cent., then with adequate diet and adequate insulin the patient will, as time passes, require less and less insulin. Dr. Leyton instructs his patients whenever possible to estimate their own blood sugar, and apparently he is fortunate enough to find many patients sufficiently intelligent to do this. There can be little doubt that the prognosis in patients of this degree of intelligence

[6] *Epidemic Diseases of the Central Nervous System.* By Arthur Salusbury MacNalty, M.A., M.D.Oxon., M.R.C.P. London: Faber and Gwyer, Ltd. (Demy 8vo, pp. xiii + 194. 12s. 6d. net.)

[7] *Superficial Radium Therapy.* By A. E. Hayward Pinch, F.R.C.S. London: The Radium Institute. 1927. (Demy 8vo, pp. xv + 64; 50 plates.)

[8] *Treatment of Diabetes Mellitus.* By O. Leyton, M.D., D.Sc., F.R.C.P. Fourth edition. London: Adlard and Son, Ltd. 1927. (Cr. 8vo, pp. iii + 98. 6s. net.)

must be vastly better than the average. On the other hand, he describes a method of treatment without blood sugar estimation which may prove useful to practitioners in country districts where laboratory facilities are lacking. Dr. Leyton has devoted one section to the cases where insulin fails, and he uses the expression, "When one is quite satisfied that insulin fails to act." But the question is: Should one ever be "quite satisfied" on this point? Professor Marcel Labbé (JOURNAL, March 19th, 1927, p. 530) has brought forward cogent reasons that should make us hesitate. We feel fairly sure from other parts of this book that Dr. Leyton takes more than a little satisfying too. His book is a thoughtful and practical guide well suited for the busy doctor.

Dr. WILDER, who is in charge of the section on nutrition in the medical division of the Mayo Clinic, has just brought out a further impression of the third edition of his *Primer for Diabetic Patients*.[9] The book is not intended as a guide to self-treatment, but to give the patient sufficient information to enable the physician's directions to be carried out with understanding and willing co-operation. In order that monotony in diet may be avoided the patient is shown how to arrange his diet according to a given prescription based on grams of carbohydrate, protein, and fat. Numerous cookery recipes are included, which will be found really useful. There is no disease in which it is so essential for the patient to be well instructed. Only experience can prove how far that instruction may wisely go. The fact that Dr. Wilder's book has run through three editions already suggests that he has been successful in reaching, without overstepping, the limits of useful information for diabetic patients.

NOTES ON BOOKS.

IT is a little difficult to understand why a barrister and a medical man should spend much time in translating from the German a verbose book such as *Woman*,[10] by Dr. BERNHARD A. BAUER, a gynaecologist of Vienna. Yet Dr. NORMAN HAIRE and Mr. E. S. JERDAN have apparently thought it worth while to place it within the reach of those who cannot read German. The preface to the translation concludes with the statement that it "is intended primarily for the medical, legal, and educational professions"; the most optimistic forecast cannot presume that its circulation will be very large. It is not quite clear what the motive can be for bringing such a book before medical practitioners. It does not contain any important material that has not already been dealt with in other translations and English books. Citations of sexual customs in other countries, which are made at some length, cannot be said to be of value to the British practitioner, unless he be interested in comparative and historical surveys of the subject, in which case he would obtain information from works dealing with these matters. The book is lengthy and redundant, and contains the author's own opinion on various subjects. It is arranged in five parts: the first deals with the female body and its functions, the second with the psychology of woman, the third with the sexual life of woman, the fourth with the erotic life of woman, and the last with woman and marriage. There is an appendix on prostitution compiled chiefly from Austrian observations and statistics.

The Edinburgh Veterinary Series, under the general editorship of Dr. O. C. Bradley, is now well known as providing a series of sound and reliable textbooks for veterinary students comparable with the best in use among medical students—and the latest addition to this series, by R. G. LINTON, on *Animal Nutrition and Veterinary Dietetics*,[11] is no exception to the rule. That the subject is important is a commonplace, and that lack of knowledge of animal nutrition is responsible for more loss and more disease among animals than any other single factor, is equally well known. It is, therefore, the more surprising that no adequate book on the subject has previously appeared in this country. The present volume, however, more than compensates for the delay. Mr. Linton considers nutrition in its general aspects, discusses the various foodstuffs available, their nutritive value, and their preparation and storage, and gives detailed instructions for the feeding of farm animals, dogs, and poultry. It is written in an easily understandable manner, and ought to find its way into the hands of everyone interested in the care of animals. We would suggest that in the next edition there should be included instructions for the feeding of goats, cats, and the various laboratory animals. Even with this omission, however, this book has a value far beyond the limits of the veterinary profession, and we congratulate its writer on a very desirable contribution to the science of animal nutrition and dietetics.

Dr. PIERRE KAHN'S *Guide de Psychiatrie*[12] is not a comprehensive treatise on mental disorders, but, as its title indicates, a guide to the understanding of these maladies; and it is everything a guide should be; eminently practical, free from unnecessary technical phraseology, and unburdened with metaphysical speculation, it presents an accurate picture of the various psychoses, especially in their bearing on the many problems that confront the practitioner in their diagnosis and treatment. It may also be read with profit as an introduction to the larger textbooks on the subject of mental disease. The chapter on the method of examining a mental case is particularly good, and the section devoted to the diagnosis and treatment of toxic confusional states is of great practical utility. The author's account of schizophrenia and its occasional development in the course of a toxic confusional insanity is both interesting and helpful. The chapters dealing with certification in France and with the medico-legal implications of insanity, good as they are, will necessarily make only a limited appeal to British practitioners. A useful vocabulary of technical terms completes the work. Dr. Kahn is to be congratulated on the production of so excellent a guide.

The forty-sixth volume of the *Transactions of the Ophthalmological Society of the United Kingdom*[13] contains the proceedings during the past year of this society and also of the Midland and North of England Ophthalmological Societies, and of the Oxford Ophthalmological Congress in 1926. The various papers are well illustrated, and the book is a useful record of recent progress made in this subject in Great Britain.

[9] *A Primer for Diabetic Patients.* By Russell M. Wilder, M.D. Third edition, reset. Philadelphia and London: W. B. Saunders Company. 1927. (4½ × 7½, pp. 134; 4 figures. 7s. 6d. net.)

[10] *Woman (Wie bist du Weib?).* By Dr. Bernhard A. Bauer. Translated by E. S. Jerdan, B.A., LL.B., Barrister-at-Law, and Norman Haire, Ch.M., M.B., and edited, with an introduction, by the latter. London: J. Cape, Ltd. 1927. (Med. 8vo, pp. 413. 25s. net.)

[11] *Animal Nutrition and Veterinary Dietetics.* By R. G. Linton, M.R.C.V.S. Edinburgh Veterinary Series. Edinburgh: W. Green and Son, Ltd. 1927. (Roy. 8vo, pp. xi + 399; 12 figures, 4 plates. 21s. net.)

[12] *Guide de Psychiatrie.* Par Pierre Kahn. Paris: N. Maloine. 1927. (Imp. 16mo, pp. 252. 18 fr.)

[13] *Transactions of the Ophthalmological Society of the United Kingdom.* Vol. xlvi. London: J. and A. Churchill. 1927. (Demy 8vo, pp. xlix + 410; illustrated. 30s. net.)

THE CRISIS IN CHINA.

A MEDICAL REPORT.

FURTHER details have now been received about the serious occurrences in Southern China, indicated in the cable sent from Shanghai to the headquarters of the British Medical Association, which was reproduced in our issue of April 9th (p. 680). The signatories of the cable, numbering thirty-two, include the most prominent medical practitioners in the disturbed areas, and the information now supplied by Drs. E. L. Marsh, J. L. Maxwell, and Gordon Thompson illustrates the grave nature of the threat to Shanghai. Dr. Marsh, who is vice-president of the Shanghai Medical Society, has replied as follows to the cable of sympathy sent by the Council of the British Medical Association at its meeting on April 7th: "On behalf of the British medical profession in Shanghai I wish to express our sincere thanks to you for this very kind and helpful message. We greatly appreciate the Council's sympathetic and powerful interest at this time. The prompt action of the Council in response to our request is noted and appreciated with much satisfaction. Please convey to the Council our most grateful thanks. Before I conclude, I must refer to our Government's splendid effort in sending troops to defend us. This generous help has given not only our own nationals, but all others in Shanghai, a special sense of security and protection, which is constantly receiving heartfelt acknowledgement through telegrams, public press, and platform."

Attacks on Hospitals and Medical Colleges.

The following record of destructive assaults on various hospitals and medical colleges illustrates the blind fury of the Chinese nationals against philanthropic institutions

which, supported by foreign generosity, have for many years ministered gratuitously to the bodily needs of the local inhabitants, and have established educational centres where Chinese students may be trained in the prevention and cure of disease. Dr. Maxwell states that, while the Northern troops have been often justly accused of looting, he knows of no damage having been done by any retreating army, all the outrages being attributable to Southern troops or their civilian sympathizers. From nearly all areas come reports of unprovoked outrages on the foreign and loyal Chinese staffs; the foreign doctor in peril of death, or pleading with howling mobs for leave to continue the hospital activities; looting and destruction of property; broken promises to hospital authorities and revengeful cruelty to the innocent and unprotected; confiscation and robbery under arms; and the infliction of needless misery upon thousands of suffering patients.

Canton.—The first institution to suffer was the Canton Hospital, which was closed in March, 1926, in circumstances described in our issue of April 24th, 1926 (p. 753). This hospital—the oldest in China—had existed for ninety years, and in it had been treated more than two million Chinese patients. It was administered by a local missionary union, and Dr. J. O. Thompson, its medical superintendent, is a Canadian. Dr. Sun Yat-Sen was at one time a student there, and retained deep interest in it until his death. The local labour union, after issuing an absurd ultimatum, cut off the supplies of food, light, and heat, with the connivance of the Canton Government, so that seriously ill patients had to be turned out into the street. The hospital is still closed, and the buildings are falling to pieces, no repairs of any kind being permitted. The Kung-Yee medical school, which was one of the finest of the Chinese institutions, and was governed by a board of Chinese trustees, with foreign assistance, was the next to suffer. It was confiscated by the local government, and is now empty and heavily in debt. The J. G. Kerr Hospital for the Insane, which is controlled by the American Presbyterian Mission, was recently compelled to close; the nature of the interference with this institution has already been described in our issues of February 26th (p. 392) and March 26th (p. 581). The local government forcibly entered part of the empty building, and is now using it for asylum purposes. This is a particularly senseless outrage, as the hospital was the only properly organized one of its size for the insane in the whole of China, and accommodated some 800 patients when in proper working order.

Wuchow.—The work of the hospital of the American Baptists here was stopped by local malcontents, despite official promises to the contrary. The institution was sealed officially with Chinese and American seals, but these were shortly afterwards broken by the military authorities, who used the buildings for a time for their own purposes. More recently the local government compelled the evacuation of the hospital, and it was handed back to the Mission, which reopened it.

Fatshan.—The English Wesleyan Mission Hospital here was seized shortly after the closure of the Canton Hospital, and for a short time was used by the troops for barracks. This hospital was later returned to the Mission and medical work was recommenced.

Kongmoon and Shiuchow.—In each of these places there was a British Hospital, the first belonging to the Canadians and the second to the English Wesleyans. Both hospitals were closed for a time and the present position is unknown.

Changsha.—In the march of the Southern army from these towns to Hankow the next place of importance as regards hospitals was Changsha, with a group of institutions in neighbouring towns centred on it. For about a month after its occupation by Cantonese troops peace was maintained, but, with the arrival of communist agents, the story of Canton was repeated on an even worse scale. When these agents travelled on to Central China the position in the Changsha area became decidedly easier again, which explains the reopening of the hospitals here as at Wuchow, Fatshan, and Kongmoon. In Changsha is situated one of the leading medical schools, under joint American and Chinese administration, and a large American hospital. The school has been completely broken up, and the hospital is believed to be closed. An added outrage in this case, as in most of the recent attacks on hospitals, has been the refusal to allow the medical staff to remove their personal property, the authorities claiming that the hospitals and all their contents belong to the local governments. Every hospital in the province of Hunan, with the possible exception of one small institution, has been closed, and in many instances large sums of money have had to be paid to the Chinese employees before even this has been permitted. This robbery has invariably had the connivance, and often the open consent, of the local authorities.

Hankow.—The position in Hankow has been on the whole easier than elsewhere, possibly because it has been more prominently in the public view. Of the two large British institutions here the London Mission Hospital continues to function with comparatively little trouble. The Wesleyan Hospital was the scene of great disturbances at first, but is still continuing its work after a fashion, though under Chinese management and not at all satisfactorily. Details are generally lacking as regards the other hospitals in the province of Hupeh, north of Hankow, with the exception of one large hospital at Siaokan, where the soldiers are occupying the women's hospital and the greater part of the men's hospital, leaving only a few rooms in which a Chinese doctor is attempting to carry on.

Kiangsi.—The next attack of the Southern army was directed against the province of Kiangsi, where the few hospitals escaped lightly on the whole, probably because the military forces concerned were Chiang Kai-Shek's personal troops, among whom the communist element is lacking. Four of the eight hospitals in this province are known to have continued work smoothly until recently, but owing to the evacuation of all foreigners from this region it is impossible to say what is happening now. No details are yet available about hospitals in Anhwei and Kiangsu as the occupation of those places is too recent for much news to have come to hand. One American and one British hospital in Chinkiang have been looted, probably by the Southern troops and their sympathizers. The American hospital at Yangchow, across the river from Chinkiang, has been completely looted and stripped, apparently by Southern sympathizers and not directly by the army.

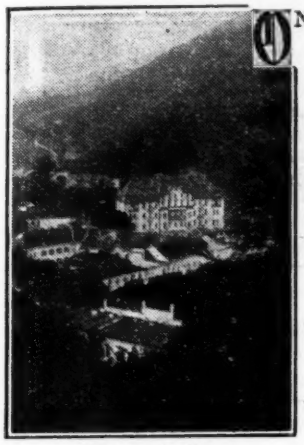
Nanking.—In the recent infamous outrages at Nanking the hospitals did not escape. The large University Hospital (American) accommodated in one half of it a large number of wounded Southern troops under the treatment of the foreign and Chinese medical staff. This part of the hospital is believed to have escaped serious damage, but the other half was thoroughly looted by Southern troops in uniform.

Fukien Province.—The 17th Nationalist army, which marched up the coast through this province, is notorious for its looting proclivities as regards foreign property. The British General Hospital at Chinchow was seized, the medical officer being threatened by men with revolvers. The place was then used as a barracks and its new buildings were defaced and fouled. Eventually one of the military officers in the city, who had been the patient of the doctor in charge, heard of this and cleared the troops out of the hospital. The same army went on to Foochow and added outrages, one of the principal buildings to suffer being the large British hospital of the Church Missionary Society. The tuberculosis block and the pathological department of the men's hospital were completely wrecked, while the fine new building for women patients was thoroughly looted.

Hangchow (Chekiang Province).—The British hospital and medical school of the Church Missionary Society at Hangchow, with its convalescent homes, maternity hospital, and branch institutions for the treatment of tuberculosis, leprosy, and insanity, was built up by Dr. Duncan Main, who retired last November, after forty-five years of devoted service. The hospital with its annexes contained 500 beds, and the medical school opened three years ago cost over £10,000 to build. The school was recently registered provisionally by the China Medical Association as an approved institution for medical training. When the Southern army obtained control of Hangchow the situation necessitated the immediate withdrawal of all British subjects. The Chinese medical staff was left in charge of the hospital, but immediately after the evacuation of the British the hospital was visited by delegates from a "Union to take back the Kwang Tsi I Uen," the Chinese name of this institution. Notices were exhibited announcing the determination of the union to expel from the hospital all except Chinese. On the following day a mob composed of members of the Students' Union, the Anti-Christian Union, the Workers' Union, and other bodies broke into the hospital compound, imprisoned one of the loyal Chinese doctors, and maltreated other members of the staff. The hospital was later commandeered by Southern officials, and is now conducted partly as a barracks and partly as a hospital, with a vague promise that its ownership will be considered later. This appropriation has involved the disappearance of much of the equipment and the use by unauthorized persons of the valuable stock of drugs without any sanction from the real trustees of the property. The one bright spot in the dark picture is the continued loyalty of many of the Chinese staff, who have risked, and even lost, everything while trying to do their duty.

THE SPAS OF CZECHOSLOVAKIA.

A MEDICAL TOUR OF PISTANY AND THE HIGH TATRA HEALTH RESORTS.



Trencsénteplicz.

ON April 24th the party of British doctors, whose earlier travels in Czechoslovakia have been recorded,* left Prague for Trencsénteplicz, formerly one of the best known watering-places in Hungary, but now within the frontiers of the new Republic. The ten-hour journey eastwards took them through Brno (Brünn), the capital of Moravia, where they were greeted by members of the Anglo-American colony. Brno has long been famous for its cloth factories, and is to-day a medical centre of growing importance and the seat of one of the two new Czech universities.

Trencsénteplicz is hard enough to pronounce, and its Slovak name, *Trencianské-Teplice*, moves even less trippingly on English tongues. This picturesque little town, 850 feet above sea level, stands in hilly forest country at the foot of the Carpathians, and the virtues of its hot sulphur waters have been known in Central Europe for 500 years. There are now eight mineral springs—six for bathing and two for the "trink-kur." In chemical composition all the waters are much alike; they rise at temperatures between 96.8° and 107.6° F. The new baths, oriental in design, are immediately over the springs, so that little of the natural sulphur gas and radium emanation is lost. Beyond its thermal sulphur baths Trencsénteplicz specializes in hot mud packs, and a descriptive leaflet tells us that in the summer months there is no lack of "dispersing and entertainments which in moderate measures are intended to attain a cheering up of the depressed state of health." It was much too early in the year to form an impression of what this spa is like at the high season; but its natural charm could not escape the eye, and the local doctors were eager to show and explain its equipment to their colleagues.

Pistany: Irma Baths and Hotel Thermia.

THE BATHS OF PISTANY.

Pistany, celebrated for its mud baths, is a beautiful spa whose name, however spelt, is becoming each year better known to British physicians. It lies in the broad valley of the Waag, at an altitude of 500 feet, some 300 miles south-east of Prague, and is well served with trains. Its reputation in the treatment of chronic rheumatic affections, sciatica, and the after-effects of injury is due in large part to the hot sulphur springs and the volcanic mud deposited by them along the bed of the winding river. Both water and mud have to be cooled before use, for their temperature at the source is over 150° F. How and why they leave the bowels of the earth is a question the clinician may leave to geologists, just as their physical and chemical properties are to him of less moment than their indications, mode of use, and effects.

It is forty years since Sir Spencer Wells made a pilgrimage to Pistany, but a reprint of what he wrote in these columns† is still handed to medical visitors from English-speaking countries. A great deal of healing mud and water has come to the surface in the interval, and the primitive village bathing-place of 1887 has been transformed, under the enterprising management of the Winter family, into the luxurious and highly efficient spa of 1927. The two principal hotels are first-rate in all respects, and the larger, the Thermia Palace, leads direct into the baths. The radio-active sulphurous mud is dark greenish-grey, and butter-like to the touch. It is scooped up in wooden buckets, cooled to the prescribed temperature, and clapped upon the skin by deft hands. The patient, thus immobilized and swathed in cloths and blankets, looks very like a mummy, though pinker and less shrivelled perhaps. The clinging mud is presently rinsed off with hot sulphur water, and, after a sweat and a rest and a bathe in the hyperthermal pool, those who have any distance to go are taken back to bed in a wheeled sedan chair of the kind shown in Dr. Crocket's photograph.

The hospitality of Pistany was even more abundant than its balneological literature, and that is saying much. The party was received with every courtesy at the railway station and welcomed later at dinner in the Hotel Royal. Next day, having tried the hot mud and learnt by personal experience that after a bout of fever rest is needed, they were shown over the Irma Bath Establishment, and the Pro Patria Hospital for the free bath treatment of insured persons; and Dr. A. Reichart gave them an interesting address on the action and uses of mud baths and demonstrated the Pistany pack. Lunch was followed by a lantern lecture on the history of the spa by Dr. Paul Veres, and a visit to the sanatorium on the riverside kept by Drs. L. Schmidt and E. Weisz. At a banquet in the Thermia Palace Dr. Smély of the Czech Ministry of Health spoke for his government; Dr. Schmidt for the municipality and medical profession; and Mr. Imri Winter, the presiding genius of the spa, for the baths management. It was at Pistany that the visitors heard for the first time a real gipsy band and saw peasant dances in the Slovak national costume.

Here it should perhaps be said that all through their trip they had skilled linguists with them. Mr. Henry Baerlein, the writer and traveller (who had had a big share in planning the tour), shepherded the party as far as the Czech frontier, and often helped them and their hosts to make friends by his lively impromptu translations. Dr. Karel Driml, head of the propaganda department of the Czech Ministry of Health, went everywhere with them in his own country and spent himself in their service; at a moment's notice he would give the gist of a speech, in English or Czech or German, to those who had not followed a word of it. And as for the bothers of travel in a strange land, these were all taken over and smoothed out by Mr. John Zlámal, of Pistany, secretary of the Union of Slovakian Spas.

* BRITISH MEDICAL JOURNAL, May 14th, pp. 885-86; May 28th, pp. 966-68.

† Notes on a Visit to Pistyán, BRITISH MEDICAL JOURNAL, May 5th, 1883.

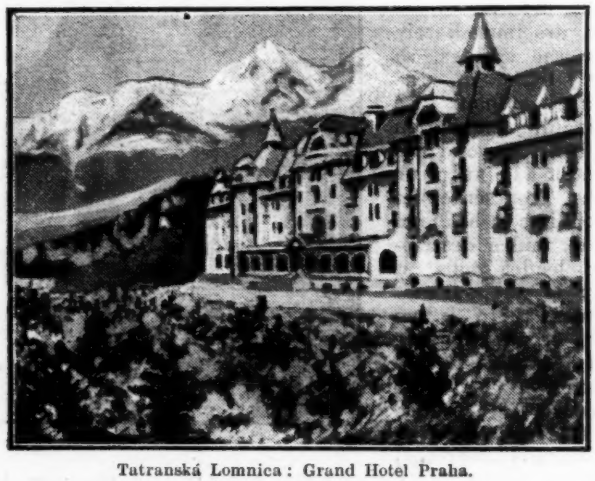
Palace Sanatorium, Novy Smokovec, High Tatra.

THE HIGH TATRA.

The central and highest group of the Carpathians, known as the High Tatra, is the most impressive mountain range in Europe, for it rises sheer out of the surrounding plateau, like a vast wall, 8,000 feet and more above the sea.

Leaving Pistany behind, with the regret to which they had become hardened after a kaleidoscopic fortnight among the spas, the travellers headed north and then east again for the last stage of their outward journey. Five or six hours in the train, towards and between the foot-hills of the Carpathians, brought them abruptly face to face with High Tatra, towering over the landscape. Then from the junction at Poprad Velká they mounted to Tatranská Lomnica, one of the many small health resorts dotted about the lower slopes of the range. This, "the Czechoslovakian Davos," faces south, at an altitude of 3,000 feet above the sea; it is one of the State-owned health resorts, like Strbské Pleso, which stands 1,400 feet higher on the borders of a mountain lake.

Pistany: Wheeled Sedan Chair.



Tatranská Lomnica: Grand Hotel Praha.

The Alpine scenery around Tatranská Lomnica is very beautiful. At every turn one sees two huge snow-capped peaks rising above the pine woods. On their far side is Poland. The Grand Hotel Praha, a luxurious building, does not open so early in the year, and the visitors put up at the châlet-like Slovensky Dum and feasted at the Lomnica—two inns that lay themselves out for winter sport. Here they tasted Tokay, and met a group of the sturdy ambulance doctors who take medical charge of a scattered mountain population. Speech-making became more frequent, though not more formal, in the thin, sharp air of the Slovak highlands.

On the following afternoon they passed on to Novy Smokovec, a climatic station of growing repute, and spent the night as the guests of Dr. Nicholas Szontagh at the Palace Sanatorium. This is surely one of the finest institutions of its kind in Europe. It is, in fact, a palatial sun-trap, with the mountains behind and a wide valley spreading below. Many cases besides those of tuberculosis are received. The building is so planned that each of the five upper floors has a south balcony running from end to end, and nearly every bedroom leads straight out on to its own partitioned and glass-roofed piece of verandah, so that a patient can rest on a couch in the open or be wheeled into the sunshine on his bed. The whole lay-out of Dr. Szontagh's hospital-hotel is most ingenious, and the life of every patient appears to be most carefully ordered. Some idea of its situation at the foot of High Tatra may be got from the illustration at the head of this page. Strbské Pleso lies to the left nearer the snow line, and Tatranská Lomnica a few miles away to the right. All these resorts are linked up with one another, and with the main line junction at Zilina, by electric railways.

The last twenty-four hours before beginning the long journey home were spent partly at Novy Smokovec and its neighbour Stary Smokovec, looking over their sanatoriums large and small, or climbing hills; and partly in taking train up the mountain side to Strbské Pleso, with its delightful hotels at the top of the world. On the way down the travellers stopped at Tatranská Polianka to see Dr. Gúhr's admirable sanatorium for the treatment of exophthalmic goitre. In the High Tatra, just as in Bohemia and the eastern spas, kindness awaited them at every halt, and this medical tour through Czechoslovakia might almost have been a royal progress, so much honour was paid them from day to day.

It will be gathered from what we have written that Czechoslovakia takes its spas very seriously. Not only those owned by the State, but all the health resorts of the country, are watched over by the Government with a fatherly eye. The Ministry of Health periodically sends out a medical officer to inspect and advise, and the State railways make a large reduction in fares to visitors who mean to spend more than ten days at one or other of the resorts and give proof of their intention when crossing the frontier. How to get this concession may be learnt by writing direct to the management of the spa, or to the "Cedok" Tourist Bureau, Mikulandská 7, Prague II, or to any agency of the Cie Internationale des Wagons Lits.

Nova et Vetera.

THE FIRST OPERATION OF SYMPHYSIOTOMY.

In the year 1768 a young medical student named Sigault suggested to the Académie de Chirurgie in Paris that women in labour in whom the pelvis was considerably contracted might be delivered with no serious risk after division of the symphysis pubis, and that this operation might take the place of Caesarean section. The proposal was ridiculed, and for many years nothing more was heard of the subject. In 1777, however, Sigault, who had always had the greatest belief in his operation, found a patient for whom he thought his procedure was justifiable. She was a Madame Souchot, a small deformed woman with a pelvis so narrow that natural delivery of the child was impossible. With the assistance of the well known surgeon Le Roy he performed the operation of symphysiotomy, and the result was most satisfactory, both mother and child surviving. Sigault at once became famous. The Académie de Médecine struck a medal in honour of the operation, and the operator was received with open arms. M. Le Roy thus describes the case.

I observed that the child presented by its feet, that the orifice of the uterus was much dilated, and that the diameter, from the anterior to the posterior part of the pelvis, did not exceed two inches and a half. I told M. Sigault that as the diameter of the child's head at its birth usually is at least three inches and a quarter, it would be impossible for it to be delivered at an aperture of only two inches and a half; that consequently she must submit to the Caesarean operation, or that which we intended to substitute for it, to which last she consented.

Everything being got ready, we folded the mattress three times, and placed her on it. We began to feel for the middle part of the cartilage of the symphysis, which we readily discovered by the finger. I advised M. Sigault to begin the section of the superior part of the symphysis, but not above the pyramidal muscles, and to do it by two incisions. First, to divide the integuments as far as the middle of the pubes, while I held the lower part downwards, and then to begin the section of the cartilage. Secondly, to finish the incision of the integuments, without any fear of haemorrhage obstructing him in the section of the cartilage. M. Sigault had nothing but a common bistoury to perform this operation with. The thighs being opened and raised, he performed it in the manner mentioned. The moment the separation was complete, the pubes parted, as if the string of a bow had been divided, and receded to each side under the integuments. I immediately began to extract the child after M. Sigault had broken the membrane, and brought the feet as far as the os externum. I first made myself sure of the extent of the separation which we had gained by the section [that is, the side-to-side diameter], which measured two inches and a half, an extent somewhat more than that which I had gained upon the body of Mrs. Brasseur, which gave me pleasure. [Mrs. Brasseur was a woman on whom M. Le Roy made trial of the operation directly after her death. An attempt had been made by an incompetent midwife to deliver her of a child.] The child's heels were turned on the right side, and I extracted the body by gentle efforts, which I directed towards the lateral parts entirely, and not to the spine. I disengaged the left arm, and then the right; the head being still above the brim of the pelvis, I applied my hand to the face, which corresponded with the symphysis of the left ilium; I opened her thighs as far as I could, and fixed the largest portion of the right parietal in the separation. The integuments projected; I made the left parietal answer to the right lateral side of the hollow of the sacrum; afterwards, upon raising the body of the child, I drew out the left lateral side of the head, while at the same time with the right hand applied to the nasal fossa, I brought the chin downwards. By these united efforts I overcame the greatest resistance at the brim of the pelvis. When it had now gained the hollow of the sacrum, I brought the occiput between the separation, and disengaged the chin at the inferior part of the os externum by raising the child's body. The rest of the body followed presently, and the patient was delivered, to her great joy, of a living son. The thighs being lowered, the separation appeared not to exceed eight lines. I immediately extracted the placenta, because the uterus began to contract itself exceedingly.

During the operation, which was neither very painful nor tedious, the woman lost very little blood, and the husband being called in could scarcely give credit to so fortunate and speedy a delivery. We applied some lint to the wound and removed the patient on the mattress in order to make her bed. Upon the least opening of her thighs she felt very acute pains in the left posterior side of the loins and pelvis. We applied a napkin by way of a bandage, to keep the pelvis in a just position, to which we fastened two ribands behind, one on the right, the other on the left, and brought them under the thighs in order to tie them before. When put to bed, we found her pulse was not affected, and, enraptured at becoming a mother, she requested us to give her the child in order to suckle it.

BETHLEM ROYAL HOSPITAL.

Its Approaching Removal.

The transference of Bethlem Royal Hospital from its old site in Southwark calls to mind its history, which is unique in the annals of English institutions devoted to the care and treatment of mental and nervous disorders. It is probably but little known that its foundation dates back as far as the year 1247, and that the work then initiated by Simon Fitz-Mary has been carried on without a break ever since. In 1546 it was re-founded and granted a Charter by Henry VIII. It is of special interest to note the early activities of Bethlem Hospital, for until 1812 or thereabouts there was not a single public county or borough asylum, and such institutions as did exist were only due to royal or private benevolence.

Up to the commencement of the nineteenth century the mentally afflicted were housed in gaols, houses of correction, poor-houses, and houses of industry. The days seem far away when the conception reigned that the mentally afflicted were demoniacally possessed and treatment mainly consisted of exorcism through punitive measures, and the later theory that mental disease had its origin in vapours and humours within the individual, which meant treatment by bleeding, purgation, starvation, the use of sedatives and mechanical restraint.

Since the first appointment (in 1845) of the Lunacy Commissioners, who were succeeded at the end of 1913 by the Board of Control, the attitude to the mentally diseased has been ever progressive, and in this humane and scientific advance Bethlem Hospital has always been in the forefront. From the year 1815 it has occupied its present site on about 10 acres of land, but its environment then was that of fields and open spaces. How, during the last century, bricks and mortar have encroached upon it and hemmed it in is, unfortunately, only too patent to anyone who knows the neighbourhood.

Notwithstanding its age, a visitor would, no doubt, be astonished to find that in its equipment there is ample evidence of modernity which could hardly be compared unfavourably with much later built institutions. The long series of physician superintendents and others on the medical staff have always been psychiatrists of repute, and the efficiency of the hospital in the realms of research and treatment and education has developed progressively on the most up-to-date lines. It is now, and has been for years, the great centre for the teaching and practice of psychological medicine, and its value in this respect can hardly be overestimated. Now incorporated with the University of London, many students from general hospitals are taught by their respective lecturers; classes for clinical instruction are held daily; and two courses for the Diploma in Psychological Medicine are held annually. Much interesting and fruitful research has emanated from the Pathological Laboratory, while through the generosity of the president of the hospital, Sir Charles Wakefield, Bt.,

one of the best and most modern x-ray installations has been in use for some years. In fact, no stone has been left unturned in the provision of such a scientific equipment as shall make it possible to attack mental disease from every possible angle.

The inauguration of an out-patient department in a separate building in 1919 showed how much in the vanguard of modern medicine the authorities were. Here the neurologist and psychiatrist have, hand in hand, studied the intricacies of early psychopathological symptoms, with the ideal aim of prophylaxis in view. Notwithstanding the fact that the hospital so admirably fulfils its medical and academic functions, it has to follow in the train of other institutions and seek its habitat further afield where greater space and purer air may add still more to its scientific value. Though there are many advantages which naturally accrue to its present central position, it is evident that these are outweighed by the benefit which more spacious buildings in a more open and yet accessible neighbourhood will bring to the patients, whose welfare must, of course, be the paramount consideration.

Psychiatry has advanced in many directions of late years, and in the new hospital the accommodation will be so planned that the various types of cases can be differentiated and segregated in a way that will not only add to the comfort of the patients, but tend to aid still further a recovery rate which already on an average is 50 per cent. or more. On an estate of 350 acres known as Monks Orchard at West Wickham in Kent, between Addington and Bromley, the reborn Bethlem Hospital will be constructed on the most modern lines for the accommodation and treatment of about 250 patients. There are many reasons why the old caravanserai building is unsuitable, and the detached unit principle which will be adopted is one which lends itself to the most recent ideas concerning psychiatric administration. Such a system undoubtedly to a great extent renders the environment less like an institution and more homely, and these are the great factors in creating an atmosphere conducive to the patients' well-being. It will thus be possible through the separate units, each with its large special garden for exercise and recreation, to carry out the all-important practice of classifying the inmates in accordance with their adaptive needs.

Bethlem Royal Hospital.

Offices for the various departments will be provided in the main administrative block. In the science and treatment unit will be the pathological, bacteriological, psychological, dental, and electrical departments, and a lecture theatre and museum. This will render the scientific equipment of the hospital such that it will be able to carry on its academic work on the most up-to-date lines and enhance its already high status as a special medical school of the University of London. Though in the different hospital units provision will be made for all methods of special treatment, these, with the addition of hydrotherapy, massage, and physical culture, will be carried out principally in the main treatment block.

Of late years occupational therapy has rightly been much developed, and this feature has received special consideration. Not less important is the organization of facilities for both indoor and outdoor amusement. Within, social evenings, whist drives, concerts, dances, cinema entertainments, will be arranged for in the large entertainment hall. Without, patients will be stimulated to the external interests of sport, gardening, natural history, and agriculture.

There is no doubt that in the past mental hospital construction has been of such a nature that voluntary boarders or those who have only just passed over the psychotic threshold have had to be associated in the wards with patients who evince acute mental reactions. In the New Bethlem an integral part of the institution will be the convalescent unit, where this patent drawback can be obviated. Here incipient cases, mild types, and those approaching normality can find everything most calculated to give peace of mind and aid recovery.

Notwithstanding all these excellent arrangements for the main organization of the hospital, it has to be realized that without a suitably trained nursing staff any medical efforts to combat mental illness tend to be much impeded or nullified. In order to attract the type of nurse who will be competent to form an intelligent understanding of the meaning of mental disorder and create that atmosphere which is so essential to her charges, she must be catered for in a worthy manner. The hospital will not only see that she has every facility for good training, but the Nurses' Home, with its library, recreation hall, and provision for all forms of amusement, will give her that happy and comfortable home which is the more imperative considering the arduous nature of her duties. Each nurse will have her own separate bedroom, and in her hours of leisure will be able to detach herself from the hospital environment, and so gain that mental rest which she so well earns.

It seems, then, when we review the constructive plans and organization of the New Bethlem Hospital, that nothing will be left undone to render it psychiatrically efficient in every sense of the word, and that the highest aims of modern treatment and the dissemination of knowledge of psychological medicine will be amply fulfilled.

The conservative spirit necessarily reigns within most of us, and the removal of an old London landmark will be regretted by many. Bethlem has always held a special place in the world of mental medicine, and those of an older school have noted with great interest the gradual evolution of Bethlem Hospital until it has reached its present position and holds the highest rank for efficiency in every respect. Nevertheless, circumstances have made it necessary that the hospital should find a site where the great work can be carried out with still further opportunities of advance and where those mentally alienated may have an even better chance of regaining *mens sana in corpore sano*.

Of late years lunacy administration has undergone much unfair criticism from those who, doubtless with the best intentions, do not understand the difficulties that must always beset its path. The Royal Commission on Lunacy and Mental Disorder, which issued its report last year, made many recommendations. All these will be fundamentally met in the New Bethlem Hospital, which, soon to arise, will mark another milestone in psychiatric history.

British Medical Journal.

SATURDAY, JUNE 4TH, 1927.

A GENERATION PASSES.

THE British Medical Association has entered upon the fourth generation of men since its foundation in 1832. It was early in the third generation—almost exactly a generation ago—that the Annual Meeting was last held in Edinburgh. It is appropriate, therefore, in view of the forthcoming meeting, to look back upon the changes in medicine during the past thirty years. The task is not easy. However rapid the changes may be, they seem to occur in such natural sequence during the observer's lifetime that he has usually forgotten the beliefs and conditions under which he worked at the outset of his career. It is difficult, for instance, to remember that in 1898 no doctor could trust a motor car to take him on his rounds.

Some indication of the advances that have been made in medicine, and of the changes in medical interest, may be found in the list of Sections in which discussion took place in 1898 and will take place this year. At the meeting in 1898 there were sixteen Sections; this year there are twenty-one. Of these twenty-one, fourteen are practically identical with those of 1898. Two of the former series no longer exist—namely, that of Medicine in Relation to Life Assurance and that of Anatomy. Of the seven newer Sections in the 1927 list, that of Radiology at once recalls a line of progress which has been of inestimable benefit to medicine. The Section of Medical Sociology typifies the closer relationship into which the medical man has been brought with large questions affecting the community as a whole. His appearance in this role is emphasized also by the Section of Venereal Disease, and, apart from its acknowledgement of the achievements of the incoming President, Sir Robert Philip, by the Section of Tuberculosis. The widening of interests in the medical profession is shown by the Sections of Comparative Medicine and the History of Medicine. Why forensic medicine was considered unworthy of a Section in 1898 we do not know; the police surgeon was even then of sufficient importance, though the difficult question of alcohol and the motorist had not arisen.

Looking at the subjects to be debated at Edinburgh in July, some may suggest that the medical mind is still agitated by questions which were unanswered in 1898. But many others reveal progress which was then unthought of. Such are the results of insulin in the treatment of diabetes mellitus; the action of ovarian extracts; the influence of internal secretions on the sex characters; and the revolution in the views on cardiac disease. New methods of diagnosis are to be found in the Schick and Dick tests, and in the examination of cerebro-spinal fluid in venereal disease. A newly distinguished disease is represented by epidemic encephalitis; new treatment by a discussion on ultra-violet emanations; and a new relation of the State to the individual and to voluntary effort in the debates on the State's duty to the nation's food supply, regarding instruction to parents, and on the future relationship of municipalities to the voluntary hospitals of this country. Many of these topics would have gladdened the heart of the bygone generation; others might have shocked those trained in principles of *laisser faire*.

Formerly, in addition to the new President's address, general addresses were given in medicine, surgery, and psychology. In 1898 the address in medicine, on "The Toxic Origin of Disease," was given by Sir Thomas Fraser. In surgery Mr. Thomas Annandale described "The Present Position of Surgery"; and Sir John Batty Tuke opened the Section of Psychology with an address on "Modern Conceptions of the Etiology of the Insanities." The President in 1898, Sir Thomas Grainger Stewart, surely in prophetic vein, dealt with "The Reciprocal Duties of our Profession to the Community and of the Community to the Profession." He thought that professional customs did not lend themselves readily to the issue of clear and popular statements by the leaders of medical opinion. He desired to see the Legislature refer questions to the British Medical Association. He wanted the Local Government Board to be entrusted with every question affecting the prevention of disease, and money of the State spent on the endowment of research. As an argument to show that knowledge provided us with precautionary measures, he pointed out that the tuberculosis mortality had fallen by one-third in the previous thirty years. The addresses in medicine, surgery, and psychology are no longer given; but the Presidential Address this year will be delivered on July 19th by Sir Robert Philip, who was secretary, with Mr. John Shaw McLaren, to the meeting in Edinburgh in 1898. The title of the address will probably be "The Strategic Front of Medicine To-day," and it will, we understand, be in part reminiscent and in part prospective.

A special feature this year is the decision to hold the Edinburgh celebrations of the centenary of Lord Lister's birth during the Annual Meeting of the British Medical Association. To commemorate the event a Lister Memorial Volume, edited by Dr. Logan Turner and containing contributions by well known medical writers, will be presented to each member of the Association who attends the meeting. Among the exhibitions at Edinburgh there will be a museum of Lister relics, and a pathological museum, which is now a regular feature of Annual Meetings.

In 1898 there was no Representative Meeting. Reconstitution of the Association had not taken place, and it was not until 1903 that the first Representative Body met at Swansea. Before that date the only opportunity available to the ordinary member for criticizing the administration of the Association or airing his views was at the Annual General Meeting. The reconstitution was a sign of the adaptability of the Association to changing circumstances, and helped to further the desire of Sir Thomas Grainger Stewart that the Legislature should refer questions to the British Medical Association. If anyone requires evidence of the value of the change, it is only necessary to compare the position of the panel doctor in England with that of the insurance doctor in Germany, who is still ground under the heel of the Krankencassen, or approved society, officials. In England, where a powerful professional organization existed before the Insurance Acts were thought of, control of the doctor became vested in very different hands.

Those who attend this year's Annual Meeting will receive from Edinburgh no less cordial welcome than in 1898. They will find that one thing has not changed one whit in the course of a generation—namely, Scotland's reputation for hospitality. They will be offered a scientific programme of the greatest interest, social amenities, and the opportunity of seeing some of the beautiful scenery of Scotland. Details of

all this will be found in the SUPPLEMENT. In preparing its welcome Edinburgh may well have felt some trepidation, seeing that the body from which her guests were drawn in 1898 has nearly doubled its membership, having grown from 17,700 to 32,300. But Edinburgh will be justly proud of the part which she has taken in achieving this success. The assumption of the office of President of the Association by the distinguished secretary of 1898 marks continuity with the past, gives prestige in the present, and assures yet greater achievements in the future.

LOCAL IMMUNIZATION IN SEPSIS.

WHEN Professor Besredka, after much investigation, expressed the opinion that the reaction of the body to some diseases was not general, but local, it was at once evident that important therapeutical conclusions might be drawn. In a book,[1] published two years ago, he dealt with anthrax bacilli, staphylococci, and streptococci as organisms in which the processes of infection and immunization were primarily in the skin.

Superficial septic conditions obviously afford a good field for experimental study, and an attempt was made to prepare some agent which could be applied locally in order to attack the infecting organisms directly or indirectly. Making use of the well known fact that bacteria, when freely grown, produced poisons inimical to themselves, cultures eight to ten days old were filtered and their toxins removed by heat in order to make application to septic areas safe; to these preparations the term "antivirus" was given. Recent reports indicate that such bacterial filtrates may have a therapeutic value. H. Lehndorff and Margarethe Brumlik[2] demonstrated that each antivirus had a specific inhibiting effect on the growth of the group of organisms from which it was prepared, and also increased leucocytic phagocytosis. A hanging-drop preparation of a twenty-four-hour culture of *B. coli* showed diminished motility when the specific antivirus was used. Since the antivirus is an alkaline fluid of the same *p*H as the body fluids, it does not injure the tissues when brought into contact with them in order to produce its full local effect. Lehndorff and Brumlik, and also Besredka, recommend that for ordinary pyogenic infections a polyvalent antivirus consisting of a mixture of streptococcal and staphylococcal antivirus is desirable. P. Moritsch and R. Oppolzer, however, employed a monovalent preparation in a certain number of their cases, restricting the polyvalent antivirus to those in which a mixed infection seemed probable or had actually been demonstrated in smears and cultures. When the antivirus was applied as a wet dressing in fifty-two cases of such suppurative conditions as acute mastitis, paronychia, whitlows, and furunculosis, in conjunction with the usual simple surgical measures, these investigators found that the exudate from the wound diminished, pain was relieved, the signs of inflammation rapidly subsided, and healing was accelerated. It produced no effect, however, when applied to the unbroken skin over an abscess, and failed in one case of severe generalized erysipelas. As already noted in the *Epitome* (April 16th, para. 433), P. Tron found the treatment valuable in puerperal sepsis, while Schlein has obtained beneficial effects in a small number of cases of buccal sepsis from a mixed antivirus containing staphylococci and streptococci. It relieved pain in acute periodontitis, and one case of severe ulcerative stomatitis which had resisted other forms of treatment for three months subsided three days after the application of the antivirus.

Various theoretical explanations of the effects observed have been offered. Lehndorff and Brumlik consider that each antivirus, besides having a damaging effect on a specific type of organism, also modifies the tissues, rendering them a less suitable nutrient medium for bacterial growth. These authors do not regard antivirus as in any way related to Twort-d'Herelle's bacteriophage, though they think that the activity of ferments may play some part in the process. Citron explains the results as due, not to a direct action on the organism, but to a local immunization of the tissues. Besredka has suggested that a soluble antivirus is liberated ordinarily during the phagocytosis of organisms, and that the "sessile phagocytes," or the reticulo-endothelial cells, when artificially impregnated with antivirus, become desensitized to pathogenic organisms, and are thus enabled to engulf and destroy large numbers as freely as if they were non-pathogenic. Though these hypotheses are as yet unconfirmed, the clinical results obtained appear to indicate that further investigations may produce results of considerable practical as well as theoretical importance.

[1] *Immunisation Locale*, reviewed on December 19th, 1925 (p. 1184).
[2] *Wien. klin. Woch.*, April 14th, 1927

MENTAL DEFICIENCY ADMINISTRATION.

THE Report of the Board of Control for 1925 was issued nine months ago. An article epitomizing some portions of it was published in the JOURNAL of September 11th last (p. 487). That part of the report which deals with mental deficiency has not, perhaps, received as much attention from the medical profession as it should have had. Such attention will probably be stimulated by a memorandum on the subject drawn up by a county medical officer of health, approved by the Association of County Medical Officers, and more recently adopted, without material alteration and after perhaps insufficiently detailed consideration, by the Council of the Society of Medical Officers of Health. The attitude towards the Board of Control disclosed by the memorandum is one of active hostility, and the criticisms of the Board's report and supposed intentions are not restrained. It would, however, easily be possible for the Board to reply that its intentions have not always been correctly described, and that a more careful study of some of the paragraphs of its report might have prevented what is an evident misunderstanding of their tenor.

Nevertheless, the main principle for which the memorandum contends—that the work of mental deficiency administration should not be isolated from all the other medical work of a local authority, but should be regarded as an integral part of public health work under the administrative control of one principal medical officer in each area—has on more than one occasion been declared emphatically as part of the policy of the British Medical Association. It cannot be gainsaid that there is a real necessity for insistence on this principle at the present time, and that there is considerable anxiety as to the attitude of the Board of Control with regard thereto, and, indeed, as to the full appreciation by that Board of the facts and problems of public health administration in general, and of the relation of those facts and problems to its own special field. The circumstance that this special field is concerned only with mental defects and disorders will not justify administrative isolation. The Ministry of Health Act makes it the duty of the Minister to "secure the preparation, effective carrying out, and

co-ordination of measures conducing to the health of the people, including measures for the prevention and cure of diseases and the treatment of physical *and mental* defects." The Chief Medical Officer of the Ministry of Health, in his report for 1925, said that the problem of the mentally subnormal child "should not be dealt with only as a form of curative or ameliorative medicine, but as an integral part of preventive medicine." The Report of the Royal Commission on Lunacy and Mental Disorder said (para. 38): "It has become increasingly evident that there is no clear line of demarcation between mental illness and physical illness"; and (para. 50): "The problem of insanity is essentially a public health problem, to be dealt with on modern public health lines." In that unification of public health administration, both centrally and locally, for which the Association is striving in the interest of national health there is no propriety in excepting any particular health service. It is unfortunate that the school medical service is still regarded primarily as part of our educational machinery and not as part of our public health machinery so far as its administration is concerned; though the effects of this separation are minimized by the happy circumstances that the Chief Medical Officer of the Ministry of Health and the Chief Medical Officer of the Board of Education are the same person, and that in almost all areas the medical officer of health is also the school medical officer. On the ground that mental deficiency in the child cannot be divorced from the work of the school medical service, as well as on the ground that the mental deficiency in the adult or adolescent cannot be properly considered apart from the same condition in the child, it is desirable that responsibility for these spheres of health work, as well as the others, should be placed upon one chief administrative health officer in each local government area. Any tendency of the Board of Control to encourage action on lines contrary to this principle must be carefully watched; but it may still be hoped that no such tendency will appear.

Even were such administrative unification actively encouraged or firmly established, however, this would not refute the statements of the Board of Control in its report: (1) that a large number of local authorities are still failing, in a greater or less degree, to carry out their statutory duties in connexion with mental deficiency; and (2) that there are a not inconsiderable number of members of the public health service, whether medical officers or their lay subordinates, who show very little or no interest in, and but slight if any knowledge of, this work. The memorandum of the Association of County Medical Officers and the Council of the Society of Medical Officers of Health would appear to be intended to imply that these statements are incorrect, but no one with a wide knowledge either of educational administration or mental deficiency work will be likely to question their truth. Such blame as there may be does not lie wholly with the local authorities, or still less with their officers. Pressure from the Board of Control upon what may be regarded as the most backward authorities can scarcely be described as severe, and for some time past the President of the Board of Education has been discouraging education authorities from making that provision for mentally defective children which is part of their statutory duty. When the council of the local authority in these circumstances deliberately neglects or has only a perfunctory regard to this part of its work, the medical officer and his staff can scarcely be blamed if they devote their energies to those public health duties in which they can do effective service, and are less zealous to acquire skill in or devote their time to spheres of work in which they know the employing authority will take no effective action. Nevertheless, there are many areas in which the local authority is primarily at fault, and some in which the responsible medical officer and his subordinates are imperfectly equipped for this portion of their work.

The duties of the local authority towards mentally deficient persons are (1) ascertainment, (2) education, so far as possible, between the ages of 7 and 16 years, (3) care by way of supervision, guardianship, or residential institution provision. The first and second of these lie mainly with the education authority, the third with the mental deficiency authority. None of them is easy to perform completely and effectively. They all require a good deal of special medical skill as well as vigilant and instructed lay help. Over a large part of the country there is a disastrously incomplete provision both for education and for supervision and care, and though ascertainment is supposed to be universally carried out, it is clear that in many cases both zeal and persistence are lacking with regard even to this, and that very varying standards are applied. In some instances no active search for defectives is made, and only those cases are known which are casually reported from time to time at the county or borough offices. In other instances the educational or sanitary officers of the authority, or the relieving officers, are directed to report any cases they come across, but as a rule they have no special training in this work. Further, where the work of ascertainment is done mainly by a voluntary association there is a difference of practice. In some areas every case coming to notice is handed on to the local authority; in others only those which, besides being mentally defective, are "subject to be dealt with" under the Acts.

It is scarcely to be wondered at, therefore, that the Board's figures may be challenged; or that the Board should insistently demand some degree, or a higher degree, of skill and training in this work from those persons, whether medical or lay, in whose hands is placed the duty of ascertainment—still more of ascertainment, classification, and supervision. If, as we believe, the medical officer of health should be the responsible person, whether or no he has on his staff (either as a school medical officer or otherwise) another medical man or woman with special duties in this connexion, it is essential that he should himself have considerable knowledge of this subject; and if duties with regard to mental deficiency are assigned to school nurses, health visitors, or others on his staff, it is equally essential that they should have received an appropriate training. This is emphatically the case with regard to any medical officer who is responsible for the actual certification of cases; and in this connexion it must be remembered that the Diploma in Public Health does not involve such training or experience, that even the Diploma in Psychological Medicine may be held by a person who has seen nothing of mental deficiency work, and that the medical superintendent of a mental hospital is often not interested in defectives, has usually little knowledge of home conditions, and is not always in touch with the general public health work in his area. In these circumstances it is fortunate that the Central Association for Mental Welfare has provided short courses of training, which are officially recognized, for social workers, and also, in conjunction with the University of London, for medical officers. It is fitting that the services of the Central Association, in this and in other directions, should be acknowledged.

ATTENUATION: "A STUNNING SUCCESS."

LAST Thursday was the forty-sixth anniversary of the crucial practical test of the validity of Pasteur's method for the protection of farm animals, especially sheep, against anthrax. On March 21st, 1881, he had made a final report to the Académie des Sciences on his experiments to produce anthrax bacilli of a greatly reduced degree of virulence. The bacillus would grow freely in a suitable medium, but its virulence was greatly attenuated or abolished. At the end of April, 1881, Pasteur arranged with the president of the Agricultural Society of Melun to put preventive inoculation to a practical test. He proposed that sixty sheep should be used for the experiment, but consented, at the request of the president of the society, to extend the experiment to ten cows. He foretold that after inoculation with a very virulent virus all the sheep not protected by inoculations of attenuated virus would die; that all the cows not so protected would be at least made ill, and that some would die; that the protected sheep would survive inoculation with this very virulent virus, and that the protected cows would not be made ill. The experiment was made at the farm of M. Rossignol at Pouilly-le-Fort, Melun. The animals actually used were 58 sheep of both sexes and of varying age; 2 goats, 8 cows, 1 ox, and 1 bull. On May 5th 24 sheep, 1 goat, and 6 cows were inoculated with the attenuated virus. On May 17th they were again inoculated with a second virus less attenuated than the first. On May 31st 60 animals were inoculated with a very virulent virus—namely, 48 sheep, of whom 24 had been vaccinated and 24 not; 2 goats, 1 vaccinated and 1 not vaccinated; 10 bovine animals, 6 vaccinated and 4 not vaccinated; 10 sheep, neither vaccinated nor inoculated, were kept as controls. Forty-eight hours later (on the morning of June 2nd) a large number of spectators assembled at the farm. It was an anxious moment for Pasteur, because, though he was certain of his laboratory facts, a practical test under farm conditions was another matter, for so many accidents might happen; his mind had, however, already been relieved by the receipt of a telegram on the previous evening telling him that things were turning out as he had foretold; the telegram ended with the words "stunning success." Pasteur reached the farm at 2 o'clock on the afternoon of June 2nd. He saw laid out the carcasses of 21 of the 24 sheep which had not been protected by inoculation of the attenuated virus, and of the one unprotected goat. The 24 sheep and the goat protected by inoculation appeared to be in good health. None of the bovine animals was dead, but the 4 unprotected presented extensive oedematous swellings around the point of inoculation, and by the following day the swellings were much larger and the animals had fever. The 6 bovine animals protected by the attenuated virus did not suffer any elevation of temperature, swelling, or loss of appetite. By the evening of June 2nd the three remaining unprotected sheep were dead. The success of this farmyard experiment was at once widely acknowledged by practical veterinarians, and the importance of the principle established was by degrees gradually recognized by the medical profession. From it may be dated the beginning of the enormous amount of experimental and clinical work which has been done on attenuation and immunity.

THE COLSTON RESEARCH SOCIETY, BRISTOL.

THE universal respect in which the memory of Edward Colston, the philanthropist of Bristol, is held in his native city is reflected in the societies which have been established there from time to time to keep his memory fresh. The parent society still holds its meetings; but as these are conducted in private the nature of its deliberations is unrevealed, although it is known that there was a time when heavy feasting and hard drinking formed part of the agenda. Then there are the opposing political societies —the Anchor and the Dolphin—for those who delight in political fisticuffs; and a haven of peace for those who have forsworn politics for good—the Grateful. More recently a desire arose to make some adequate commemoration of the educational, as distinguished from the purely charitable work of Colston. The late Mr. Walter Reid, founder of the *Western Daily Press*, with this end in view, proposed to establish another Colston Society, which should not only commemorate Colston, but also work for the conversion of the Bristol University College into a university. A Colston Research Society was accordingly founded, and it exercised considerable influence in securing the University Charter which was applied for in 1903. In recent years the funds of the Research Society have been used in grants for definite branches of investigation, and the same broad and varied outlook has been exhibited by the committee in the application of their grants as the townsmen have shown in the activities of their various societies. Thus, the list for the current year includes such items as the use of heavy fuel in engines, the processes of soap-boiling and tanning, the measurement of temperature and pressure in internal combustion engines, certain matters of literary and artistic import, and, not least in importance, the study of rheumatic heart affections. At a dinner given by the Research Society at the Victoria Rooms, Bristol, on May 23rd, at which Sir William Hardy and Sir Humphry Rolleston were the guests of the evening, the honorary secretary, Mr. J. A. Arrowsmith-Brown, announced that a sum of £200 had been given by six subscribers for a research fellowship in connexion with the Institute of Cardiac Research, which is to be established shortly at the Bristol General Hospital and will be equipped by the University. Work in relation to heart disease has already been assisted by the society, and is being carried out under the supervision of Dr. Carey Coombs; the fellowship will enable the whole-time service of a skilled assistant in the work to be secured. By the generosity of the donors the payment is made possible for two years. Sir Humphry Rolleston, in replying to the toast of "The Guests," referred to the change of attitude which was observable in regard to the value of scientific research. It was now recognized, even by the Government, that from a commercial point of view the new knowledge gained by a comparatively small expenditure on investigation by skilled hands might effect great and lasting economies. The recent scientific study of industries and the condition of the workers had been revolutionary in respect of the methods for preventing waste of time and ill health. Organized medical research in the laboratory, he stated, was no less fruitful in furnishing exact results, although systematized clinical research was of equal importance, and, from the complexity of the conditions involved, of greater difficulty. By systematized clinical research alone was it possible to ensure the detection of the earliest signs of disease, and so to facilitate the ideal of medicine—namely, the prevention rather than the cure of disease. Sir Humphry congratulated the city and University of Bristol in having in Dr. Carey Coombs one who was following out both these lines of research in investigating the incidence of rheumatic disease in children; it was appropriate that Bristol, the home of merchant adventurers, should be the home of the Colston Research Society, which endowed and encouraged the search after truth in so many branches of knowledge. The subject of acute rheumatism and its cardiac complications has been brought prominently before the profession during the last few months. A subcommittee of the British Medical Association published a report on rheumatic heart disease in July last, and a second report from the same source appeared in the SUPPLEMENT of April 16th (p. 121), with an appendix prepared by Dr. Reginald Miller on the prevention and control of juvenile rheumatism. In March

last a report on social conditions and acute rheumatism was published by the Medical Research Council, and in an article which appeared in our last issue Dr. Miller compared the reports and summed up the conclusions to be deduced from them.

INTRATRACHEAL INJECTION OF IODIZED OILS.

NEW diagnostic and therapeutic procedures arouse frequently a degree of enthusiasm which carries with it a tendency to overlook or minimize any risks entailed. The unquestioned value of iodized oils in radiography of the chest has led to the adoption of this method of examination on so considerable a scale that the possibility of undesirable effects has been less emphasized than is altogether desirable. Drs. E. Archibald of Montreal and A. L. Brown of San Francisco have, therefore, rendered distinct service by publishing[1] a careful estimation of the dangers of introducing iodized oil into the tracheobronchial system. Although they agree that the practice is, as a rule, safe, they add that, whether the introduction of the oil is transthoracic, transglottic, infraglottic, intercricothyroid, bronchoscopic, or by deglutition, it is possible to cause local sepsis, laryngeal oedema, or a false passage, while excessive quantities of oil may reach the stomach and set up poisoning. Though probably a rare event, infective material from the mouth or larynx may be carried into the alveoli, and the authors have shown by experiment that the presumed antiseptic character of the oil is not to be trusted. The coughing usually caused by introduction of the oil may intensify a pathological process in the lungs, or infect healthy alveoli and induce bronchopneumonia. Respiratory embarrassment may be caused by the oil plugging the smaller bronchi, and this may prevent the entry of air into a considerable portion of the lung with retention and possible absorption of the purulent products. Since it is impossible to regulate the rate or amount of absorption of the oil, the danger of iodism cannot be excluded, and the authors suggest that preliminary determination of the iodine tolerance of the patient would be a useful precaution. In this connexion the possibility of sensitization effects in tuberculous patients must be remembered, since the congestive action of the iodine may light up a quiescent tuberculous process, or cause exacerbation of a chronic mild infection. That these dangers are not hypothetical is shown by reference to the literature and by reports of three cases observed at the Royal Victoria Hospital, Montreal. A man, aged 36, with chronic bronchitis and bronchiectatic dilatations, died after the administration of lipiodol, which provoked an acute pneumonic process. In a woman, aged 27, the introduction of this oil brought about an immediate severe reaction, with rise of temperature and increased pulse rate. In the third case, a woman, aged 28, with quiescent pulmonary tuberculosis, the injection of lipiodol caused a severe febrile reaction, with dyspnoea, cough, and increased expectoration; the exacerbation subsided in a week. Conditions which should be regarded as contra-indicating absolutely the employment of such intratracheal injections are pulmonary tuberculosis, with haemorrhage or pyrexia; suppurative bronchorrhea, with fever; and pulmonary gangrene. It seems clear, therefore, that the introduction of iodized oil into the bronchi should not be employed indiscriminately. The possibility of untoward sequels must be recognized and precautions taken to avoid its use in unsuitable cases.

[1] *Journ. Amer. Med. Assoc.*, April 23rd, 1927, p. 1310.

BOTULISM.

THE tragic episode at Loch Maree in 1922, when eight persons lost their lives through eating sandwiches containing potted wild duck paste, is happily the only authentic instance of botulism recorded in Great Britain. This comparative immunity is in strong contrast with experience in North America. A recent return shows that there have been reported in the United States and Canada, from 1899 to 1926, outbreaks to the number of 146, with a total of 496 cases and 329 deaths, giving a case mortality of 66 per cent. During the eight years 1918 to 1925 there were on an average thirteen outbreaks annually. In 1926, the last of the years under notice, the number fell to three, in Wyoming, Oregon, and California respectively, all western states. The peccant foods were string beans, trout or salmon, and asparagus, all home-canned. The *Bacillus botulinus*, an anaerobic spore-forming organism, is widely distributed in nature. It is found in the soil, in dust and, as the casualties show, in various food stuffs. The frequency of botulism to the west of the Rocky Mountains and especially in Southern California has been ascribed to an abundance of the spores of the bacillus in the soil of these areas. The disease, which derived its name originally from its association with sausages, is usually caused by preserved or processed foods, meats for the most part on the European continent. In North America, however, many other articles of diet, such as cheese, spinach, olives, and those above mentioned, have been implicated. Prevention is secured by the use of fresh foods, by cleanliness in preparing them and by applying sufficient heat to kill the spores. Brine or syrup in adequate strength is a safeguard. Acid fruits appear to be guiltless. Thorough cooking tends to protect, but in infected foods the toxin may form again. Though only one outbreak of botulism is known to have occurred in Great Britain, food poisoning accredited to other bacteria such as those of the Salmonella group is not uncommon. In England in 1925 there were about twelve visitations of this kind, one at Plymouth of 308 cases and others at Lynmouth, Clacton, Scunthorpe, Lambeth, Neston, Stepney, Harrogate, Hampstead, and elsewhere. In Scotland during the same year six outbreaks were recorded, including a widespread infection at Aberdeen involving 497 persons. The total deaths for the year appear to have been two in England and one in Scotland, a different tale from the high mortality of botulism. Botulism in the United States has frequently followed the eating of home-preserved foods. There is a considerable amount of home preserving in this country, but the Loch Maree outbreak was caused by a factory product, contained in glass jars. The reporter to the Scottish Board of Health on the outbreak expressed the view at the time that the reputable firms take every reasonable care and precaution, but said that he would like to see glass jars abolished, since they do not stand heating to the thermal death point of pathogenic spores so well as metal containers. In order to supply for future cases, should they occur, such remedy, if any, as may be possible once the signs of poisoning have appeared, and for the protection of persons in the entourage of cases who may be presumed to have been exposed to risk, the Scottish Board has caused stocks of antitoxin to be held available in Fever Hospitals at Aberdeen, Dundee, Edinburgh, and Glasgow for issue as occasion demands.

BLOOD PLASMA AND SENILITY.

IN his Cavendish Lecture at the West London Medico-Chirurgical Society on May 27th, Dr. Leonard Williams epigrammatically remarked that "senescence, like love, is a story which never grows old," and has taken this opportunity of touching on some old views in the light of modern research in tissue culture, endocrinology, and so forth. Thus attention is called to Dr. Harry Campbell's insistence twenty years ago on the importance of the blood plasma, as contrasted with the more easily investigated corpuscles, in the life, health, and disease of the body. As the plasma is built up from the products of digestion and

the internal secretions of the endocrine glands, the tissues, which it bathes and nourishes or poisons, are likely to pay the penalty for dietetic errors and to respond to the stimulus, or remain quiescent in its absence, of the hormones of the ductless glands. On the subject of cookery and food Dr. Leonard Williams follows fairly closely the principles of Metchnikoff, and with a firm but light hand has much to say on "the subtle sins of sloth and gloomy gluttony"; his comment on the treatment of disease, which may result in interference with the saving grace of *vis medicatrix naturae*, gives us the *obiter dictum* that "in comparison with the ordinary British invalid, the forcibly fed Strasbourg goose is an ascetic." Fasting, he points out, is the simplest and safest of remedies in many, especially metabolic, disorders, but, being devoid of mystery, is far from popular. We remember a sanatorium in America the inmates of which were encouraged to eat nothing for weeks at a time. Rejuvenation is, Dr. Leonard Williams said, the motto of the moment, and surgical measures, such as those of Steinach and Voronoff, are much in the limelight, but they should never be needed if moderation in diet punctuated by fasting were universally practised. The lecturer believed Voronoff's reasoning to be sound, and had seen excellent result follow his grafting operation; under the present widespread conditions of overfeeding there were many who might be benefited by the grafting operation, not by the prolongation of life, but by the prevention of senility and the maintenance of efficiency during the duration of life. Sooner or later, of course, and in spite of "laborious days, occasional fasts and grafts," the inevitable stage of the lean and slippered pantaloon arrives, and the final burst of the bubble is probably often brought about by adrenal failure to preserve vascular tone, with the resulting sudden hypotension, as in surgical shock or in collapse, "sometimes fortunately without the surgery."

THE HOSPITAL ALMONER.

A WELL attended meeting, under the auspices of the Institute of Hospital Almoners, was held in London on May 26th, with Lady Bradford in the chair, to inform the public of the work of the hospital almoner, and to stimulate interest in this form of social service. After Dr. Gray had described the functions of the institute, which arranges for the training of candidates as almoners and certifies and registers them, an address was delivered by Sir John Rose Bradford, P.R.C.P., who approached the subject from the point of view of after-care. The need of after-care, he said, loomed constantly in the mind of those who had to do with the treatment of disease. What had for long been recognized as necessary in mental cases was now seen to be no less necessary in physical illness. Working people who had been suffering from rheumatic fever, for instance, were very prone to imagine that immediately after the cessation of any serious symptoms they might resume work under the same conditions as before, and often this meant that the benefit they had received under treatment was undone. In cases of this kind the work of the hospital almoner was particularly valuable, for she was able, with her trained eye, to keep a watch on the patient and to ensure that as far as possible what had been done for him in the way of treatment had its proper chance. Sir Berkeley Moynihan, P.R.C.S., also addressed the gathering, speaking more particularly of the social service department in the hospital from the point of view of the medical staff. He said that those who watched hospital cases over a period of years soon realized that, however brilliant might be the success of the physicians and surgeons in respect to the immediate result, very much remained to be done. Years ago the need was felt in hospital work for somebody who would see that the suggestions and instructions for the after-care of the patient were carried out. Otherwise the efforts made to restore a patient to health or to repair a mechanical defect or deformity never reached their full fruition. This was tantamount to saying that one of the necessary corollaries and completions of surgical work was social service. Since the system of almoners at Leeds Royal Infirmary had been started he had been impressed by the saving of human life and the diminution of misery which had resulted from their constant and devoted work. Not only was the almoner effective in the matter of after-care, but she could do much in the preparation of the patient for effective hospital treatment. Many patients who ought to undergo operation had first of all to be brought back to life before the surgeon could hope to restore them to health. The doctor, the nurse, and the almoner were the tripod on which successful treatment depended. But it was necessary that the almoner should be competent and trained, and should have special gifts for the work. The ideal almoner was a gentlewoman, a person of good breeding and high character, in love with her job, and with a sense of compassion for others. In the north they were finding exactly the kind of gentlewomen needed. At her best the almoner was really the doctor's ambassador on the domestic hearth. Unless every hospital in the future had at least one almoner as a recognized member of its staff, the work done in that hospital would not reach its full effect and would mean a waste of effort and of money. He himself at first had been reluctant to admit the almoner into their counsels, but he had come to see that the moment when the surgeon was most delighted with the perfect healing of a wound was the moment at which the almoner should begin her work. The Leeds Infirmary now had five. Sir Arthur Stanley spoke on the value of the social service department in hospital administration, and Sir StClair Thomson wound up with a vote of thanks.

THE MEDICAL MAN IN PARLIAMENT.

DR. GRAHAM LITTLE, M.P. for the University of London, in an address to the Chelsea Clinical Society on May 31st, lamented that a profession so important to the community as the medical should muster no more than a dozen members in a House of 615. For a medical man to serve in Parliament entailed sacrifice of money and leisure, yet it ought not to be difficult for a man in consulting practice, at all events, to perform his parliamentary duties as efficiently as the practising lawyer, of whom there were about 200 in the House of Commons. Parliamentary proceedings needed very careful watching. A bill of quite considerable effect for large numbers of the community might slip through an almost empty House with practically no discussion. In the case of the Dogs' Protection Bill, had not a small number of members resolute in opposition been present the bill would undoubtedly have gone through in the forty-five minutes available, with disastrous results to medical research in this country. It was not enough to have public agitation outside the House; the position must be secured within the chamber. Medical men were in Parliament by accident. With the exception of a small effort by the British Medical Association, there had been no attempt by medical bodies to secure the parliamentary representation of medicine. The medical profession was freely assailed with the accusation that it was a trade union actuated by sordid motives of self-interest, but it was difficult to imagine any trade union so blind as the medical profession to the importance of taking action where action could be most fruitful—namely, on the floor and in the committee rooms of the House. When he entered the House in 1924 the medical members held an informal dinner and discussed the possibility of forming themselves into a medical group to take corporate action when medical matters were involved. The majority of those present appeared to believe that political differences were too deep to permit of common action from a professional point of view. He

ventured to express an opposite opinion, and suggested that when the group could agree upon a policy that policy should be pursued by common action on the part of the group, but that when there were differences of opinion the group as a group should not act, its members being free to take what course they chose. The group held regular meetings throughout the session, usually fortnightly; it had received deputations from various medical bodies, and two of its members, Sir Richard Luce and himself, acted as unofficial liaison officers between the group and the Medico-Political Committee of the British Medical Association. It had been found possible to present a united front on many professional matters, notwithstanding political differences; three of the group were Labour members, he himself was an Independent, and the others were Conservatives. There were some questions on which the group was divided, and no common action was possible; one of these was the Spahlinger treatment of tuberculosis. Yet considering the smallness of the group it was surprisingly influential, even in a place where so many misconceptions as to medicine prevailed as in the House of Commons, and where the quacks had so many friends. Medical interests arose in many ways. In the present bill proposing to deal with leasehold property there was a clause specifically excluding professional premises from its beneficent operation. He pleaded on the second reading for the inclusion of such premises, and although his speech was limited to three minutes (in deference to the Speaker, whose list of members taking part in the debate was already full) it elicited a promise from the Solicitor-General that he would give the plea most favourable consideration. Amendments had accordingly been tabled whereby the bill would be made to apply to the premises of medical men. With regard to social aspects of the House of Commons, Dr. Little said that the description of it as the best club in London was fully justified. A certain dullness was inevitable in routine business. Nevertheless, the House attracted many interesting figures and outstanding personalities. It was truly said that there was no subject upon which an expert could not be found on the green benches. It was a pleasant unwritten law that every member was upon equality, and titles were dropped, except in the case of the Prime Minister. Outside the chamber party distinctions were forgotten, although in the dining room there were Conservative, Liberal, and Labour tables. There was no rancour, and the friendship among members of different political views was a source of astonishment to visitors from foreign legislatures. Indeed, so attractive was parliamentary life that it was not surprising that those who had once tasted its joys were very loath to relinquish them, and were ready to make astonishing sacrifices of time and money to retain their seats.

PSYCHOLOGY IN GOLF.

PSYCHOLOGY is spreading like star weed. It has invaded the golf courses. The latest example of this is a small volume[1] on mental handicaps in golf, by Dr. T. B. Hyslop, who is not only an enthusiastic golfer, but also an entertaining writer. Before we opened it we felt instinctively that the book would add another to those distractions which afflicted the centipede of fable, and indeed the honorary secretary of the Medical Golfing Society (to whose members Dr. Hyslop dedicates his volume with sympathy and regard) appears to have a similar feeling, for he quotes the whole of the fable in a foreword. Incidentally he quotes it wrongly, but that is another matter. Hitherto we have been under the impression that golfers and poets had one common characteristic in being born and not made; the golfer, of course, being born with a wooden spoon in his mouth. But after reading what Dr. Hyslop has to say on mental handicaps we have come to the conclusion that a babe with the minimum of golfing instincts may grow into a golf champion, provided he attends to his mental stance, when sufficiently grown up, that he is neither too optimistic nor too depressed in addressing the ball, and keeps his mind off his opponent and his opponent's mind. Moreover, if he suffers from bunkeritis, putterphobia, or any of those other disorders to which he is subject between the tee and, let us call it, the putting green, he need only consult a psychologist or, better still, read Dr. Hyslop's book, which does not, however, tell us much in a therapeutic sense. Etiology and diagnosis are its prominent features. Nor is it a book that lends itself to analysis. Its ten short chapters are concerned with such subjects as prodromata, diatheses, mental stances, automatism, stigmata of degeneration, time-reactions, psychotherapy, the tee-side manner, and anecdotage. We hoped to enjoy some new golf stories in the last chapter, but it contains none. The other chapters contain several. The ultimate result of mental handicaps is, in the author's own words, that "reserve, resource, and reason are the three best clubs for a golfer's mental bag, and these three mental characteristics are really the triumvirate of potential champions." Altogether it is a most entertaining volume if not taken too seriously. Taken seriously it is distracting and brings us back again to the fable of the centipede. We note that Miss Leitch's name is spelt incorrectly, and we prefer our old enemy Colonel Bogey to Dr. Hyslop's Mr. Par.

[1] *Mental Handicaps in Golf.* By Theo. B. Hyslop, M.D., F.R.S.E. With forewords by Rolf Creasy, M.R.C.S., L.R.C.P., and John Henry Taylor. London: Baillière, Tindall and Cox. 1927. (Pott 8vo, pp. xv + 112. 3s. 6d.)

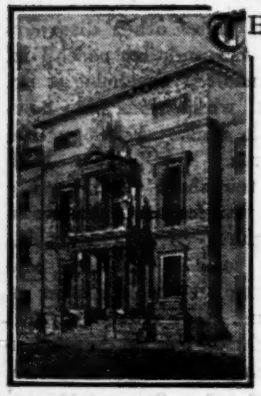
THE BIRTH AND DEATH RATES.

INFLUENZA and the falling birth rate combined to produce a decrease of population in the first quarter of this year, when registered deaths exceeded registered births by 1,644; in the previous quarter the excess of births over deaths was 43,477. There has not been an excess of deaths over births in any quarter since the March quarter of 1919, when (owing to the third wave of the great pandemic of influenza) the deficit was 47,128. In the last quarter of 1918—that is, in the worst phase of the pandemic of influenza—the deficit was 79,379. Although we need not expect a negative balance to be a frequent result of the quarterly statement of our vital banking operations in the near future, the time cannot be very far distant when there will ordinarily be so little difference between the birth and death rates that much smaller prevalences of epidemic disease than that of this spring will lead to a deficit.

THE GENERAL MEDICAL COUNCIL.

THE session of the General Medical Council, which began under the presidency of Sir Donald MacAlister on Tuesday, May 24th, occupied only four days. Although a number of disciplinary cases were considered, no medical man's name was erased from the *Register* for misconduct, but in no fewer than six cases judgement was postponed until a later session. The cases included three in which practitioners in Scotland had been keeping a medical hall or open shop where scheduled poisons had been sold to the public by an assistant not legally qualified, who, it was alleged, was acting under the doctor's "cover." Of the other disciplinary cases one was concerned with advertising, another with lax certification, and a third with convictions for drunkenness. One case in which the charge was that of "covering" uncertified women acting as midwives was stopped before the defence was concluded and dismissed. The other business of the Council was not of an outstanding kind, and was disposed of within an hour.

NINETY-FIFTH ANNUAL MEETING
of the
British Medical Association,
EDINBURGH, 1927.



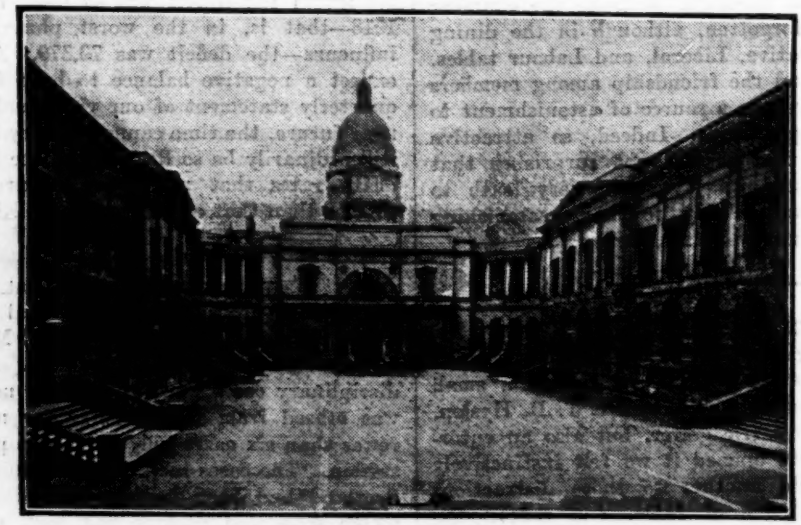
Royal College of Physicians of Edinburgh.

THE ninety-fifth Annual Meeting of the British Medical Association will be held in Edinburgh next month under the presidency of Sir Robert Philip, M.D., LL.D., honorary physician to the King in Scotland, who will deliver his address to the Association on the evening of Tuesday, July 19th. The scientific and clinical work of the meeting will occupy, as usual, the three following days, and on this occasion it will be divided among twenty-one Sections. The names of the officers of Sections and other preliminary announcements are published in the SUPPLEMENT this week; the full programme of scientific business and further details of the arrangements for the Annual Meeting will appear in later issues. The Annual Representative Meeting, for the transaction of medico-political business, will begin on Friday, July 15th. On the last day of the meeting (Saturday, July 23rd) there will be an excursion to Fife and St. Andrews. We print below the fourth of a series of descriptive and historical notes on the Scottish metropolis and its relations with the science and practice of medicine. The first article, published on December 4th, 1926, dealt with old Edinburgh and the beginning of the Medical School; the second, on January 1st, with the Medical School from 1726 to the middle of the nineteenth century; and the third, on March 26th, with Edinburgh medical institutions.

It has been decided to make the Edinburgh celebrations of the centenary of Lord Lister's birth coincide with the Annual Meeting of the British Medical Association. A book dedicated to Lister's life and writings is being prepared for the occasion, and throughout the week a museum of Lister relics will be on view in the Upper Library of the old University. On Wednesday, July 20th, at 8 p.m., a public meeting will be held in the McEwan Hall, with the Earl of Balfour, K.G., in the chair, when short commemorative addresses will be delivered.

THE UNIVERSITY AND ROYAL COLLEGES AT EDINBURGH.

THE University of Edinburgh took its rise in the Town's College, founded by the town council at the instigation of King James VI of Scotland in 1582. The College was at first housed in the buildings of the Kirk o' Field, the scene of the murder of Darnley in 1567. Although these buildings were subsequently renovated, it was found by 1768 that the buildings, "poor in themselves, seem not to have been carried on according to any regular plan, such as takes place in other academical structures which have been erected on more opulent foundations; and hence the whole fabric has a mean, irregular, and contemptible appearance." At this time the number of students was between 600 and 700, and that of the professors 21. A Medical Faculty had been added about the year 1726. A scheme for rebuilding was taken up seriously by the town council, encouraged by the promise of liberal aid from Government, and the foundation stone of the new College, from a plan by Robert Adam, then at the height of his great reputation, was laid on November 16th, 1789. This building, begun on the eastern and northern sides, was greatly delayed by the death of the architect in 1792 and by failure of funds. The remaining two sides of the quadrangle were finished by a Government Commission appointed in 1815, from plans by William Henry Playfair. This work was practically completed in 1828, at a total cost of about £161,000. The building, and especially its façade with monolithic columns 22 feet in height, forms a magnificent example of the work of these two great architects. One of the most striking interior features of the building is the great hall of the Library, 185 feet long with arched ceiling enriched with cassettes. In this hall the British Medical Association is to show a historical exhibition at the time of the July meeting.

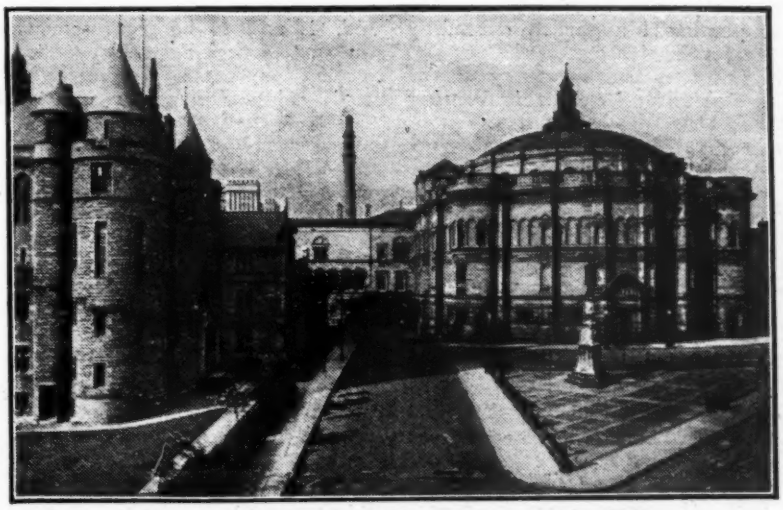


Old University Quadrangle.

The present dome, from designs by Sir R. Rowand Anderson, was not completed until 1883, and a war memorial, consisting of five tablets with the names of approximately 1,000 students and alumni of the University who fell in the great war, has been erected under the portico at the western end of the quadrangle.

In 1869 the number of students had risen to 1,500 and that of professors to 33, while there were only 17 classrooms in the University buildings for their use. Extension, therefore, became indispensable, and an appeal was made to the public for subscriptions to provide a new site, and the erection of classrooms, theatres, laboratories, etc., for the Faculty of Medicine. This appeal yielded a sum of

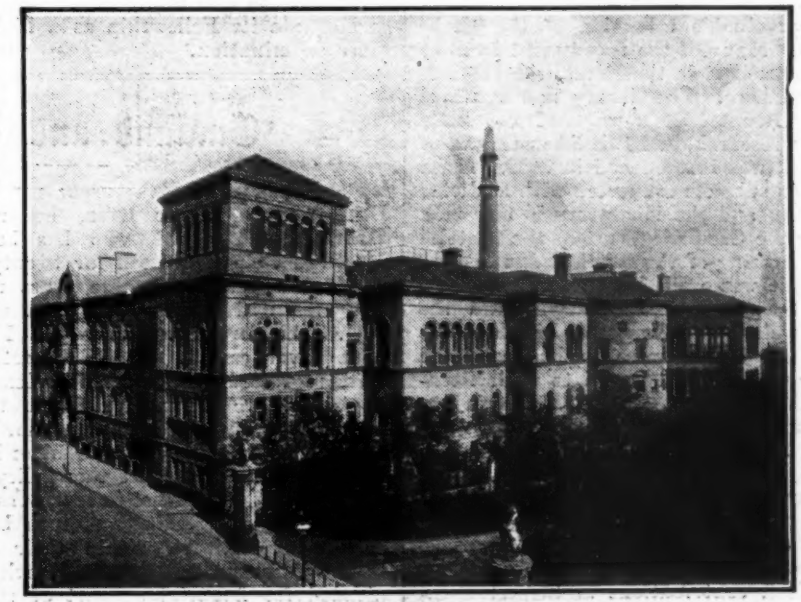
approximately £150,000, to which the Government added a grant of £80,000. The University new buildings situated in Teviot Place were therefore begun in 1878 and opened for teaching purposes in October, 1880. In these buildings the British Medical Association is to hold its meeting in July. The style of architecture is Italian of the Cinquecento period, and is in harmony with the McEwan Hall, gifted by Mr. William McEwan, M.P., and finished in 1897 at a cost of about £115,000. This hall is capable of holding upwards of 2,000 people, and will be used for the Representative Meeting of the British Medical Association, the Lister Centenary Meeting, and various other receptions in July.



McEwan Hall and Students' Union, Edinburgh University.

More recent additions to the University new buildings (School of Medicine) have been made in the Hughes Bennett Physiology Laboratory, erected in 1901 in memory of the professor of that name, and in the new laboratory for research in surgery, which was opened by the Secretary of State for Scotland in June, 1926, in commemoration of the bicentenary of the Edinburgh Medical Faculty.

The Usher Institute of Public Health is situated on the south side of the Meadows about a mile from the other University buildings. This was gifted in 1902 by Sir John Usher, Bt., at a cost of over £21,000. The engineering and natural philosophy departments of the University are situated some 200 yards to the east of the old University and occupy buildings of much historic interest in connexion with the Medical School. The natural philosophy building was completed in 1907 by the reconstruction of the old Surgical Hospital, the outer walls being preserved almost without change. The engineering department occupies a building which was previously the part of the old Surgical Hospital in which Lister's wards were situated while he was professor of clinical surgery at Edinburgh. The building was formerly the High School of Edinburgh, and occupies the site of a churchyard adjoining the old monastery of the Blackfriars burned by the English in 1544.



New University Buildings.

Minto House, situated at Nos. 18 and 20, Chambers Street, is used for the University departments of English and Modern Languages, and occupies the site of a mansion originally the town house of the Earls of Minto, which for a time was taken by James Syme as a hospital, where some of his most celebrated operations were performed.

The King's Buildings of the University, situated on the slope of Blackford Hill beyond the southern margin of the city, comprise a range of laboratories which were opened for teaching purposes in October, 1920. These buildings include the department of technical chemistry, the department of geology, and the animal breeding research department. A considerable extension of these buildings is planned for housing other scientific departments.

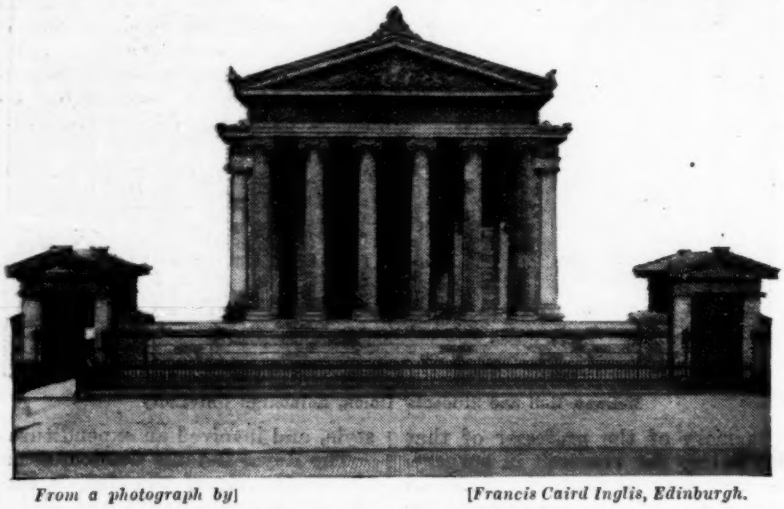
The University Union occupies a site in Park Place, close to the McEwan Hall and adjoining the music classroom. The Union was instituted in the year 1884, when the Students' Representative Council started a movement to collect funds for its erection. In 1900 and in 1906 extensions were found necessary to accommodate the increased number of students. Part of the extension occupies the site of the famous "Ross House," to which Sir Walter Scott refers in *Redgauntlet*. The buildings form a handsome example of the Scottish baronial style, and involved an expenditure of some £41,000.

The Royal Botanic Garden, situated in Inverleith Row on the north side of the city, is the property of the Crown, but is connected with the University in so far as the University lectures on botany are given in the hall of the garden. This was one of the earliest botanic gardens in Britain, and was founded about 1670, although it then occupied a site nearer the centre of the city, first of all in the garden of Holyrood and in that of Trinity College, and later at Annandale Street near Gayfield Square, whence it was removed to its present site in 1822-24.

The University Library contains about 300,000 volumes and some 8,000 manuscripts, of which many are very valuable. The Library had its origin in a collection of some 300 volumes bequeathed in 1580 by Mr. Clement Littil to "Edinburgh and Kirk of God," transferred by the town council to the keeping of the University. Among the later collections are valuable early copies of Shakespeare and other Elizabethan writers. One of the three copies extant of the *Christianismi Restitutio* of Servetus, supposed to have belonged to Calvin and retained by him when all the available copies of the work were burned together with their author, is preserved here. An early fifteenth century Gaelic medical manuscript and various mediaeval illuminated works are also possessed by the Library. Here, too, are some forty busts of former professors in the University.

The Royal College of Physicians, which at the present day has its Hall at No. 9, Queen Street, was founded in 1681, in virtue of a charter obtained from Charles II. The College was instituted mainly for the regulation of medical practice in Edinburgh and its suburbs, and at an early date (in 1699) it produced a Pharmacopoeia for use in

Scotland and about the same time commenced the formation of a library. A new charter, dealing especially with the management of the College property and the method of admitting Members and Fellows, was obtained by the College in 1861. Various halls have been occupied by this College. The first was purchased in 1704, and consisted of a house and grounds in Fountain Close in the High Street, adjoining the house of the Marquess of Tweeddale, and the College shortly thereafter purchased a garden extending down to what was then the fashionable street of Cowgate. Permission to walk in the gardens and shrubbery of the physicians was regarded as a privilege by the neighbouring gentry. Here, too, the physicians established a bath, which was open to the inhabitants generally at a charge of twelve shillings Scots, from which the College made a considerable revenue. In 1722 a new hall was erected in the garden, but this proving rather unsatisfactory, the foundation stone of a hall in George Street was laid by Dr. William Cullen in 1776, and the College removed there for the first time in 1781. Finally, in 1846, it removed to the present building. The active part taken by the College of Physicians in the foundation of the Royal Infirmary was described in the BRITISH MEDICAL JOURNAL for March 26th (p. 573) and a somewhat similar patronage was exercised by the College in the foundation at Morningside of the Royal Asylum for the Insane. The library of the College has gradually increased from the time of its foundation, and it possesses a very valuable collection of the works of early medical authors. Many of the manuscript lectures or lecture notes of early teachers in the Edinburgh Medical School are also deposited here. The library now contains about 100,000 volumes. About 1885 a proposal was made to found a laboratory for research, and this laboratory, now situated in Forrest Road, was first opened in 1889. Much valuable scientific work on subjects connected with medicine has been carried out here, and the laboratory is now to a large extent financed by the Carnegie Trust of the Scottish universities. After the passing of the Medical Act of 1858 an important arrangement was made between this College, the Royal College of Surgeons of Edinburgh, and the Glasgow Faculty of Physicians and Surgeons, by which the examinations of the three bodies were to be conducted conjointly, and a triple qualification issued to their licentiates. In addition to the licence the College of Physicians now admits Members and Fellows to its roll.



From a photograph by [*Francis Caird Inglis, Edinburgh.*

Royal College of Surgeons of Edinburgh.

The Royal College of Surgeons took its origin from the Guild of Surgeons and Barbers, which received a seal of cause or charter of incorporation from the town council in the year 1505. The activities of this body in its early days have already been described in the BRITISH MEDICAL JOURNAL for December 4th, 1926. One of the chief, as well as one of the earliest, contributions to the establishment of medical study in Scotland was made by this body in the introduction of early anatomical instruction at Edinburgh. Their teacher of anatomy, in the person of Alexander Monro, was taken into the Town's College as professor of anatomy in 1720. For about a century surgery was taught as a part of anatomy in the University of Edinburgh, and the College of Surgeons in 1804 decided that this should be changed. They accordingly appointed one of their Fellows, John Thomson, to be professor of surgery of the Royal College of Surgeons. This was opposed by the University on the plea that a university only might appoint professors, but the College of Surgeons continued their appointment later in the persons of Mr. John William Turner and Mr. John Lizars. Finally, in 1831, the Crown, on the recommendation of the town council, established a chair of systematic surgery within the University. The College of Surgeons also took a part in the foundation of the Royal Infirmary of Edinburgh, although their share in this work was not so great as that of the College of Physicians.

The hall erected for the Incorporation of Surgeons in 1697 is still to be seen, somewhat modified, standing to the east of the physics department of the University. The present handsome building, with a frontage adorned by Ionic columns on Nicolson Street, was opened in 1832. Here are situated the hall with a collection of old portraits, and the examination rooms of the College, together with its museum. This includes, among other things, the anatomical and pathological museum purchased from Sir Charles Bell in 1826. The Guild of Surgeons was erected into a Royal College of Surgeons with new privileges under the Great Seal by George III on May 12th, 1778. In the early part of the nineteenth century the licence of this College was a popular qualification sought in great numbers by men desiring to engage in general practice or to enter one of the services, and after the passing of the Medical Act the Royal College of Surgeons united with the College of Physicians and Faculty of Physicians and Surgeons in Glasgow to grant a triple qualification. The College of Surgeons has also established a licentiateship in dentistry, and grants its Fellowship as a higher diploma obtainable after examination.

England and Wales.

FREEDOM OF HARTLEPOOL FOR DR. W. S. GIBB.

DR. WILLIAM SCOTT GIBB, honorary physician to the Hartlepools Hospital, who has been a member of the Hartlepool Town Council for twenty-seven years, and who was for a period of three years mayor of the borough, was presented on May 24th with the Freedom of Hartlepool. The scroll conveying the Freedom was contained in a silver casket. Dr. Gibb, returning thanks for the gift, regretted the modern tendency on the part of the Legislature to confine legislation to county councils and county borough councils, ignoring small non-county boroughs, which in many instances had long historic traditions. He thought that this policy should be opposed in every possible way, since in many cases economy and greater efficiency would result from such boroughs having control of the expenditure within their own areas. Referring to the influenza epidemic in Hartlepool in 1918, Dr. Gibb pleaded for financial support of research into this infection, in order that medical practitioners in future might be placed in a better position to fight such serious visitations. He mentioned that during the first quarter of the present year the number of deaths had exceeded the number of births; this was mainly attributable to the occurrence of a relatively mild epidemic of influenza in these months.

THE TUBERCULIN DISPENSARY.

The first annual meeting of the Tuberculin Dispensary Benevolent Society, successor to the Tuberculin Dispensary League, was held at the residence of the Earl of Mayo on May 26th. Dr. W. Camac Wilkinson was in the chair.

From the report it appeared that eighty tuberculous patients had been treated with tuberculin at the dispensary, 32, Fitzroy Street, during the year, of whom only two had died, one from exophthalmic goitre complicating the disease. Dr. Charles Buttar, in moving the adoption of the report, expressed admiration for the coherence in theory and economy in practice of Dr. Camac Wilkinson's work. Sanatorium treatment seemed to him excessively costly in working, and so incoherent that its advocates still disagreed whether its main object was to cure early cases or to segregate advanced cases. Dr. Buttar supported the proposal made recently by Dr. Wilkinson in the *Times*, that a research institute for tuberculosis should be established. An address was read by Dr. Camac Wilkinson in which he suggested that the recent decline in the death rate from tuberculosis was partly due to the loss of 700,000 men in the prime of life during the war. Had they not been killed, probably at least 10 per cent. would have died of tuberculosis. Dr. Wilkinson pleaded for a fair and judicial trial of every system of treatment which seemed economically sound and did not demand too great sacrifices from sufferers from the disease. He urged the necessity for a five years' trial, under specified conditions, of any proposed system of treatment; and asserted that such trials could only be carried out in an independent and self-contained institution for the study of tuberculosis. The treasurer, Mr. Randall Davies, mentioned that generous financial help had been received from Sir Robert McAlpine, from the Catering Trades Dividing Societies, through Mr. F. W. Edwards, and from many others.

The Welsh National Memorial Association.

Spahlinger Treatment.

It has already been reported that at the last quarterly meeting of the Welsh National Memorial Association a report on the Spahlinger treatment was presented by the Medical Committee. A discussion ensued, but was adjourned to a special meeting which has now been held at Shrewsbury. The full text of the report of the Medical Committee was published in the BRITISH MEDICAL JOURNAL of May 7th (p. 851). It consisted of three parts: in the first it was recognized that M. Spahlinger had created a modern laboratory at Carouge, near Geneva, and had shown much ability in devising apparatus for special branches of bacteriology, but that the secrecy maintained as to fundamental details of technique made it almost impossible to judge the value of his work, while all attempts to obtain supplies of the Spahlinger preparations for systematic tests by competent authorities had failed.

In the second part of the report the committee expressed the view that the remedies obviously did not offer a "certain" cure for tuberculosis, and that conclusive evidence had not been forthcoming that they had materially altered the course of the disease. In these circumstances the committee advised the council to maintain the attitude it had adopted on April 23rd, 1926, recommending that as M. Spahlinger had promised supplies of his remedies to the Ministry of Health, which had arranged to make a full investigation (in which the association might probably be asked to participate), it would be well for the association to await the inquiry promised by the Ministry. In the third part of the report the committee stated that it could not recommend the application of public funds towards the Spahlinger Institute, and that the publicity campaign on behalf of the Spahlinger movement was to be deprecated as unjustified by the evidence so far adduced and to be deplored as raising false hopes in the minds of sufferers from tuberculosis. At the adjourned meeting considerable discussion took place, but eventually the first two parts of the report were adopted unanimously; the third was omitted.

Manchester Radium Institute.

At the annual meeting of the Manchester and District Radium Institute, on May 25th, the possibility of extension was discussed. For some years after the establishment of the Institute in 1915, radium treatment in Manchester was carried on at the Royal Infirmary under a scheme elaborated by Sir William Milligan. In the autumn of 1921 the work was transferred to a house, furnished as a hospital and presented by Sir Edward Holt; an account of the new facilities thus made available appeared in our issue of October 22nd, 1921 (p. 667). Since then the work has increased so steadily that the present accommodation has become inadequate. The number of attendances during 1926 was 6,775, an increase of 296 over the previous year. There are only eleven beds in the Institute, and a very considerable period of waiting for admission is inevitable in many cases. Sir Edward Holt, speaking of the suggested extension, said that the longer treatment now being given rendered the administration of the hospital more costly than previously. Sir William Milligan supported the proposed public appeal for funds to extend the Institute, in view of the gratifying success that had been obtained; many applications for treatment from places outside the Manchester district had to be rejected. It was stated that no systematic appeal on behalf of the Institute had been made in recent years.

The Royal Sussex County Hospital, Brighton.

Mr. Bernhard Baron has just given £10,000 to the Centenary Fund of the Royal Sussex County Hospital. The fund was started to increase the accommodation provided, and in particular to add a casualty department and new buildings for the nursing and domestic staff. The appeal received the approval of the people of Brighton and also of the medical profession there. The institution, which was founded in 1826, is the chief general hospital in that part of England, and is held in high esteem both by the profession and the public. It contains 225 beds, and has a special pathological department, established as a memorial to the late Mr. Stephen Ralli. Many subscriptions were received when the appeal was first made, but interest seems to have flagged, and the amount in hand is not enough to carry out the scheme of the Centenary Fund, which includes the addition of sixty extra beds, or, alternatively, an auxiliary or recovery home for the reception of a similar number of partially convalescent patients. This will involve the provision of bedrooms for more nurses and a lecture room; the extension and alteration of the operating theatres; the reconstruction and enlargement of the *x*-ray department; the extension of the massage department, with its school for pupils; and the enlargement of the casualty department. The quarters for the matron and resident medical officers are to be enlarged, and adequate rooms provided for the domestic staff. Mr. Baron has previously made many large contributions to hospitals and kindred institutions; it is hoped that this new generous gift of his may stimulate other givers and lead to a rapid increase in the Centenary Fund.

Scotland.

Mosquitos in Renfrewshire.

A PETITION of an unusual nature, said to be the first of the kind in Great Britain, was brought before Sheriff Hamilton at Paisley on May 10th. The local authority of the upper district of the county of Renfrew petitioned for the removal of a nuisance alleged to be caused by ditches in the district of Muirend, Cathcart, which were asserted to be breeding-places for mosquitos. Larvae and pupae of mosquitos had been obtained in these ditches in 1926, and had survived the winter, so that they were likely to hatch out in the present summer. Trustees of the property affected contend that the existence of mosquitos does not constitute a nuisance under the Public Health Act. Various expert witnesses, including Professor Ashworth and Colonel Glen Liston, Edinburgh, and Dr. MacGregor, medical officer of health for Glasgow, have been called, as well as a number of residents in the district who had been bitten last year by mosquitos. The hearing was expected to last several days.

PROPOSED HOUSING AND HEALTH EXHIBITION IN GLASGOW.

The new Kelvin Hall, Glasgow, is to be formally opened by the King on July 12th, and the corporation is promoting a housing and health exhibition, to be held in the building from September 21st till October 15th. The new Kelvin Hall, on the site of the old hall burned down two years ago, is a fireproof building of ferro-concrete, occupying an area of 240,000 square feet, and will be the largest exhibition hall outside London. The exhibition is to consist of model houses, sanitary appliances, house furnishings, including lighting, heating, and labour-saving devices, appliances for home nursing and welfare, etc. Housing is to be a special feature, and several cottages or bungalows are to be shown fitted with labour-saving appliances.

PURE MILK SUPPLY.

Dr. J. Hume Paterson, medical officer of health for Lanarkshire, gave an address at a meeting in Glasgow of the West of Scotland Division of the National Veterinary Medical Association on May 19th. He gave a short historical sketch of the various Acts, Orders, and Regulations designed to ensure purity of the milk supply. The Special Designations Order had been, he said, the greatest advance that had taken place during recent years in this matter, as it had both raised the chemical standard of milk and had ensured cleanliness by establishing a standard for bacteria, which he believed was the only reliable standard for invisible dirt. In the county of Lanark at the present moment the licences held for supplying the various grades of milk numbered: certified milk, 13; Grade A (T.T.), 19; Grade A, 4; and pasteurized milk, 1. An additional safeguard would be furnished by having composite samples of milk from a Grade A herd examined at intervals of, say, three months for the presence of tubercle bacilli. If any were found, the veterinary inspector should then examine the herd to find the offending animal. Pasteurized milk, Dr. Paterson thought, should be abolished, because pasteurization was no guarantee that clean milk was being supplied, since no standard was set for the original milk before it was pasteurized. He suggested that the grades of milk should not be more than two—namely certified milk and Grade A milk.

ABERDEEN STUDENTS' HOSPITAL COLLECTION.

As a result of the recent hospital gala week in Aberdeen the sum of £5,577 has been distributed by Aberdeen University students to the Aberdeen Royal Infirmary and other hospitals in the city. The sum collected was an increase of £857 over last year's total. During the past eight years the students, by these annual gala weeks, have raised nearly £33,000 for the hospitals of the city. The allocation of the money collected this year was as follows: Aberdeen Royal Infirmary £3,323, Maternity Hospital £1,200, Aberdeen Royal Hospital for Sick Children £800, Aberdeen Eye Institution £100, District Nursing Association £100; carried forward to next year, £54.

Ireland.

PRIVATE PATIENTS IN COUNTY HOSPITALS.

THE County Wexford Health Board received recently a medical deputation with reference to the question of fixing the terms of remuneration of Dr. O'Brien, surgeon to the County Hospital. The deputation consisted of Dr. T. Hennessy, Irish Medical Secretary; Dr. W. W. Murphy (Coolgreany) secretary of the County Wexford Medical Association; Dr. W. C. Lawler (Bunclody); Dr. G. A. Hickey (New Ross), and Dr. O'Brien, County Hospital. Dr. Clinch, Inspector of the Local Government Department, was also present. Dr. Hennessy said the whole question in dispute between the Health Board and Dr. O'Brien was whether he should be allowed to charge for private patients. From the legal aspect, only patients of a certain class were entitled to hospital treatment; they corresponded approximately with those entitled to free treatment in the dispensary. The idea in the scheme of treating private patients in the county hospitals was partly to benefit the local ratepayers and partly to supplement the inadequate official salary of the county hospital surgeon. The medical profession as a body never looked too favourably on the arrangement, but they did not deny the boon it would be to the local ratepayers, especially those with limited means, to be treated in the local hospital. He could quite understand that a Wexford farmer who could have an operation done in Wexford for £25 or £30 would be getting a great boon, because if he went to Dublin it would possibly cost him £100, as he might be six or seven weeks in a home at a charge of eight to ten guineas a week and have to pay medical fees besides. By having the operations in Wexford means would be afforded to the surgeon to supplement what would generally be admitted to be an inadequate salary. The county surgeon (Dr. O'Brien) had an official salary of £500 a year. The district justice had £1,200 a year. He thought a good operating surgeon should be as great an asset to the county as a legal administrator such as a district justice. There was, Dr. Hennessy said, a proposal to give Dr. O'Brien an inclusive salary, to treat both Poor Law patients and private patients. That would not be sanctioned by the Local Government Department. An inclusive salary was out of the question. The cost of medical treatment of private patients must be entirely an arrangement between them and the hospital surgeon, as in the case of private medical practitioners and their private patients outside the hospital. Dr. Clinch, Inspector of the Local Government Department, explained the attitude of that department with regard to the draft regulations which it drew up to govern the admission of paying patients to county health board hospitals. He also informed the board that the Local Government Department would not sanction a salary for the surgeon of the county hospital to include fees which should be alone chargeable to his private patients, as to do so would be an injustice to the ratepayers and to the profession. After a long discussion, the whole matter was, on the suggestion of the chairman, adjourned to the next meeting, pending a reply from the department about the draft regulations made at a special meeting of the Board in Wexford on April 23rd. The chief provision was to admit paying patients at 9s. a day in private wards and 6s. a day in semi-private wards, with appropriate charges in addition for any special nursing, medical fees, or other expenses. The surgeon would be required under the proposed regulations to treat all patients admitted to the hospital, and in consideration of these services the Health Board would pay him £300 per annum in addition to his present salary of £500 with allowances. It was also provided that the surgeon should, if the patient required it, permit any other doctor to have access to the patient, and should, as far as possible, act in consultation with such doctor. If a patient was refused admission by the county surgeon, or the matron in his absence, a report should be furnished at the next meeting of the Health Board on the reasons for such refusal.

NOTIFICATION OF TUBERCULOSIS.

A memorandum dealing with the notification of tuberculosis has been sent to each sanitary authority in Northern Ireland by the Ministry of Home Affairs. The memorandum states that it is the duty of any medical practitioner attending on any person within a district in which part of the Tuberculosis Prevention (1) Act, 1908, has been adopted, on becoming aware that such person is suffering in any prescribed circumstances from tuberculosis of any prescribed form or at any prescribed stage, within seven days after he becomes aware of the fact, to send to the medical officer of health a certificate in regard to the case. Under section 1 (4) of the same Act it is enacted that a medical practitioner who fails to send the certificate within the period specified shall be liable on summary conviction to a penalty not exceeding 40s.

ULSTER MEDICAL SOCIETY.

The annual meeting of the society was held in the Medical Institute, Belfast, on May 24th; Dr. Loughridge, vice-president, occupied the chair. The reports from the

honorary secretary and treasurer, and librarian, were received and adopted; 197 Fellows and 58 members had now joined; the statement of accounts showed a balance of £589 to the credit—this balance would be reduced by about £300 before the winter session by the purchase of an epidiascope. Dr. Calwell raised the question of reduction of the annual subscription with the object of increasing the number of Fellows and members, but it was considered advisable to postpone its consideration. Professor Thomson proposed that a small committee should be appointed to discuss with the Library Committee of the Queen's University the possibility of coming to some agreement to avoid the duplication of periodicals; this was agreed to, and the officials of the society, with Sir Thomas Houston, Professor Fullerton, Mr. Craig, Mr. Crymble, and Professor Lowry, with Professor Thomson as chairman and convener, were appointed. The following officers were elected: President, Dr. J. C. Rankin, Belfast; Ex-president, Dr. J. Nolan, Downpatrick; Vice-presidents, Mr. Henry Hanna, Belfast, and Mr. T. Killen, Larne; Council, Drs. Loughridge, Burns, Mr. Crymble, Drs. Marshall, O'Flaherty, and Peatt; Honorary Treasurer, Dr. J. T. Lewis; Honorary Secretary, Dr. R. M. Beath; Honorary Editorial Secretary, Dr. J. A. Smyth; Honorary Librarian, Dr. W. L. Storey.

Correspondence.

DRUGS FOR SLEEPLESSNESS.

SIR,—"*And what he greatly thought, he nobly dared.*" I and many other alienists will rejoice to see that Sir Maurice Craig has "dared to be a Daniel" on the question of sedatives in early mental diseases.

We live in a world of inconsistencies and paradoxes. The doctor who gives a dose of medicine which relieves agonizing physical pain is thought "thrice blessed" by the grateful patient, while in many cases the alienist who attempts to relieve mental pain and anguishing sleeplessness is said to be "drugging" the patient or "promoting a drug habit." Hilton taught us what was meant by relief of physical pain, while my old friend and teacher, Maudsley, impressed upon all how necessary it was to give relief to mental suffering. Many an early case of melancholia has been quickly cured by recognizing this necessity. I wish Sir Maurice Craig had not confined himself to the barbitone group of drugs, though their usefulness is known to all alienists. Sleeplessness must be often combated by more scientific therapeutics than reliance on any one class of drug. Idiosyncrasies have to be studied, the state of the circulation has to be gauged.

For insomnia with a high blood pressure there is no drug so useful as chloral, while in patients with a low blood pressure some drug of a stimulating character like opium, either in the form of Batley's solution or nepenthe, must be our sheet anchor. In many cases, however, in which neither of these extremes is met with, I think of all this group medinal is the best.

Much might be written on this subject of the necessity for drugs in cases of insomnia and of the many varieties of such drugs. My constant rule has been to give such drugs into the safe keeping of a second person, and during my fifty years of practice I have never had a case of "drug habit" developed by the use of any drug I have ordered, and many cases have been able, once the sleep habit has been established, to leave off the drug immediately with no ill effect.

I trust other alienists will come forward to help all those who believe sleep and relief from mental pain are necessities if hope of early recovery in mental disease is to be an accomplished fact.—I am, etc.,

Bournemouth, May 29th. LIONEL A. WEATHERLY, M.D.

SIR,—On May 10th, 1927, at the annual meeting of the Section of Therapeutics and Pharmacology of the Royal Society of Medicine papers were read by Dr. F. A. Pickworth, Dr. Helen Young, and myself on the clinical and pathological effects of hypnotic drugs of the barbituric acid and sulphonal groups. The meeting was well attended and representative of those engaged in the teaching of pharmacology—Professor Gunn of Oxford, Professor W. E. Dixon from Cambridge, Dr. P. Hamill, and many others—were present. A full discussion followed the papers and general agreement was expressed with the conclusions arrived at.

It is unfortunate that Sir Maurice Craig did not attend the meeting and take part in the debate, for I feel that the most suitable place for a critical discussion of this subject would have been the meeting at which the papers were read. It is, I fear, trespassing somewhat unduly on your generosity and your valuable space by correspondence which would more appropriately have formed part of the Society's discussion.

It may be added that my paper has not yet been published in the *Transactions* of the Royal Society of Medicine, so that the criticism of Sir Maurice Craig is somewhat premature.

Since the introduction of the barbituric acid compounds (from 1906 to 1925 inclusive) no fewer than 253 deaths from poisoning by these drugs have been recorded in the Registrar-General's statistics for England and Wales. In 1925 there were twenty-two deaths. These figures by no means express the actual number of fatal cases, for the Registrar-General's returns contain, in addition, a group of deaths due to narcotic poisoning, "kind not stated," some of which were doubtless due to barbituric acid compounds. In addition, as pointed out in my paper, the veronal compounds in large doses commonly cause coma and bronchopneumonia, and some deaths from veronal poisoning are undoubtedly certified as pneumonia.

I personally saw a number of the fatal cases of poisoning, and in a large proportion of these found that the patient possessed a medical prescription and had been taking the drug over a long period. There was often clear evidence of addiction to the drug. As a result of this addiction, together with the consequent mental depression, a large and fatal overdose had been taken. Very many of the deaths were in persons of education and in the prime of life.

When fatal poisoning occurs the physician who has given the prescription is not usually called in to deal with the grave emergency, and in all probability never hears of the fatal consequences. Are the frequent deaths from poisoning by veronal, medinal, and their allies to be lightly brushed aside as of no consequence?

My clinical experience of a large number of these tragic cases compels me to raise my voice against the practice of prescribing these drugs over long periods and of leading patients to believe that they are harmless. To quote a few cases:

On February 21st, 1921, a married woman, who had taken forty 5 grain medinal powders, was seen by me. This patient had been taking a daily dose of 5 grains of medinal over a long period on the prescription of an eminent physician. This culminated in her taking forty powders at once with fatal result.

On April 29th, 1921, I saw an unmarried woman who had for one year been taking 10 grains of veronal every night on medical prescription. This caused mental depression, leading her to take 10 ounces of pure lysol with fatal result.

On November 25th, 1924, I saw a married woman suffering from veronal poisoning and consequent pneumonia, which terminated fatally. A very large dose had been taken and a similar history of the taking of veronal on medical prescription over a long period was obtained.

On February 22nd, 1927, I saw a man suffering from veronal poisoning and consequent pneumonia. This patient had been in the habit of taking veronal on medical prescription nightly over a long period. He then took a large and fatal overdose.

I have notes of many other similar cases.

I do not question that it is safe for so expert a physician as Sir Maurice Craig to prescribe veronal or medinal over long periods to patients under his continued personal observation, but to give a patient a prescription for prolonged use when not under continued skilled medical observation is, I unhesitatingly say, a dangerous practice.

Addiction to the barbituric acid compounds undoubtedly occurs, and is a real danger. I have personally seen many cases of marked addiction. The literature on the subject has been carefully collected by Dr. Helen Young, and all the references are at the disposal of Sir Maurice Craig. The evidence from this is overwhelming.

In 1912 a fatal case of veronal poisoning in a young man was investigated by the Director of Public Prosecutions in conjunction with the coroner. I have before me the deposition of the distressed mother, which states:

"I knew he took veronal for years; I implored him to give it up, but he said he could not. . . . He took it first for pneumonia and never could give it up. . . . He had been taking veronal for six years. . . . He told me he should never be able to give it up. . . . He seemed to lose all self-control when he wanted it. . . . Apart from that he was mentally all right."

What stronger evidence of veronal addiction could one have than that?

Addiction is only discovered when the drug is withheld. If Sir Maurice Craig advocates the taking of veronal and medinal daily over long periods I can readily understand how he does not discover when his patients have in fact developed addiction.

Sir Maurice Craig expresses the opinion that addiction to barbituric acid compounds is "practically non-existent," and then goes on to quote two classes of persons who might become addicts, the chief being the degenerate type. Such a statement is in direct contradiction to my clinical experience. Even a perfectly normal person, if exposed to the continued action of veronal and its allies in moderate doses over long periods, runs a grave risk of becoming an addict to the drug.

The late Sir Frederick Mott was deeply interested in the pathological effects of the barbituric acid group of drugs, and in conjunction with Dr. Pickworth and Mr. D. L. Woodhouse, M.Sc., carried out during the last two years of his life a research into this subject. The pathological evidence from this research, which was published in the *British Journal of Experimental Pathology* in 1926, shows conclusively that organic changes are caused in the central nervous system by the continued taking of such drugs, and that when the drugs are discontinued these changes gradually clear up.

Clinical evidence supports this research. I have on many occasions seen definite objective nervous symptoms, such as ataxic gait, diplopia, anarthria, paralyses, etc., result from the continued daily administration of a veronal compound in a therapeutic dose.

On November 27th, 1926, I saw a patient suffering from ataxic gait, diplopia, and defective articulation. This patient had been taking a full dose of allonal daily for six weeks. On December 25th, 1926, I saw a patient suffering from ataxia, drowsiness, diplopia, and thick speech. In this case veronal was found in the urine and cerebro-spinal fluid. In both of these cases the symptoms completely cleared up on discontinuance of the drug. Sir James Purves-Stewart saw these two cases in consultation with me, and I have his permission to state his entire agreement with the diagnosis of poisoning by barbituric acid compounds.

The occurrence of definite objective nervous symptoms following the continued use of these drugs in therapeutic doses is a strong reason for the exercise of caution in their use.

I am compelled to express my conviction that to advocate the daily use of the barbituric acid compounds over a long period, unless the patient is under continued skilled medical supervision, is misleading to the medical profession, dangerous to the public, and, above all, highly dangerous to the patient.—I am, etc.,

W. H. WILLCOX.

London, W.1, May 31st.

SIR,—In regard to the letter from Sir Maurice Craig published in your issue of May 28th (p. 983) it may be of interest to state that I have had a patient who suffered for many years from paranoia of the persecutory type. This woman had taken medinal on the advice of a mental specialist almost continually for twenty years, and finally such was her mental deterioration that she committed suicide by taking the contents of forty powders of 5 grains each. The mental deterioration may, of course, have been due partially or wholly to the normal trend of the pathological condition, but the medinal had apparently no beneficial effect.—I am, etc.,

L. S. WOOLF.

London, N.W.11, May 28th.

RHEUMATIC INFECTION IN CHILDREN.

SIR,—My first duty in replying to Dr. Miller's rejoinder (May 21st, p. 937) to my letter published on May 7th (p. 854) is to thank him for his gracious acknowledgement of the work done at Glasgow in connexion with the rheumatic child.

I can now see that all the difference between the sub-committee's idea of a "rheumatism supervisory centre" and a "cardiac clinic," so-called, is one of name, as the objects seem to be identical, and Dr. Miller admits that he intends treating all types of the rheumatic infection, that medicinal treatment will be given, and that cases will be referred to the wards or to the various special clinics (dental and laryngological) if necessary, and I suppose also for residence in the country if such can be arranged. These, as Dr. Miller knows, are just the very facilities which we provide in Glasgow. I don't suppose anyone has ever been so rash as to suggest the setting up of a special clinic complete in itself with beds and dental, laryngological departments, etc.

I think it is perhaps a pity that "the subcommittee did not consider such matters as the classification of cases." Though this may at first sight seem a somewhat subsidiary matter, I can assure Dr. Miller that it is one of great importance for the welfare of the clinic. The necessity for accurate classification calls for the most serious consideration of the case, so that the patient will in all probability be more carefully examined. From a satisfactory classification, too, it is possible easily to analyse the results obtained in any one clinic, and, if a uniform classification were adopted, the findings of the different clinics would be readily comparable.—I am, etc.,

Glasgow, May 25th. LEONARD FINDLAY.

THE CONSTITUTIONAL FACTOR IN DISEASE.

SIR,—I cannot understand why Dr. Chalmers Watson, in his letter to the JOURNAL of May 28th (p. 984), should assume that I base my recommendation for giving hydrochloric acid to those relatives of patients with Addison's anaemia and subacute combined degeneration of the cord who are found to have achylia gastrica, as a prophylactic against the disease, on the fact that 4 out of 100 healthy medical students had achlorhydria. I gave my reasons in my address on the constitutional factor in disease, but as he has misunderstood me, I hope I may be forgiven for repeating them.

(1) Addison's anaemia and subacute combined degeneration are always, or almost always, associated from their earliest stages with achlorhydria.

(2) Achlorhydria probably always precedes the development of A.A. and S.C.D.; it has been actually known to exist between one and twenty-five years before the first symptoms in 22 recorded cases.

(3) A.A. and S.C.D. are often familial, and as many as six members of a family have been affected; it was so in 28 per cent. of my private cases, and a family history has been recorded in at least 65 cases by other authors.

(4) Achlorhydria is often familial. Moreover, Addison's anaemia occurred in one or more members of the family of six patients of mine with achlorhydria suffering from various conditions, who were found to have a normal blood picture and a normal nervous system, and twenty-six similar family histories have been recorded by others.

As achylia gastrica is a constitutional and familial condition, which may lead to the development of Addison's anaemia and subacute combined degeneration of the cord in one or more members of a family, it seems reasonable to try to discover its presence before it has led to any ill result, as by giving hydrochloric acid we may hope to prevent the development of the very serious diseases which constitute the A.A.-S.C.D. syndrome, as well as the various digestive and general disorders to which it predisposes.

I wish Dr. Chalmers Watson would give us details of the investigations which have taught him that migraine is due to an alimentary toxaemia. We have never found any abnormality by means of test meals, microscopical, chemical, and bacteriological examinations of the stools and urine,

radiological examinations of the alimentary tract, the laevulose test for hepatic efficiency, estimation of blood sugar, urea, and uric acid, blood counts, and cutaneous tests for protein sensitization.—I am, etc.,

ARTHUR F. HURST.

New Lodge Clinic, Windsor Forest, May 30th.

CATARRHAL VACCINES.

SIR,—The letter from Dr. L. R. Lempriere, medical officer of Haileybury College, in your issue of April 2nd (p. 642) is a valuable contribution to our knowledge of this subject, and it is to be hoped that statistics on similar lines will be worked out elsewhere.

Unlike Haileybury, the medical interest in Eton College is divided, and it is not at present proposed to issue detailed statistics of the results of prophylactic vaccines for the school as a whole. The following figures, which I have worked out for a small section of the school, may, however, be of interest. They refer to boys in three of the houses. In almost every case the inoculated boys had three injections of the St. Mary's Hospital anticatarrh vaccine (supplied by Messrs. Parke, Davis and Co.) during the summer holidays or at the beginning of the Michaelmas term. There were no serious complications in this series.

	Inoculated Group.	Uninoculated Group.
Number investigated	26	54
Number who stayed out of school on account of influenza or feverish cold	9	28
Percentage attacked	34.6%	51.9%
Total number of working days lost	64	257
Average number of days lost per head of each group taken as a whole	2.5	4.8
Average number of days lost per head of those attacked—that is, duration of illness	7.1	9.2

The numbers involved are too small to form the basis of any final conclusions, but so far as they go agree with Dr. Lempriere's figures as indicating a slight but definite advantage in favour of inoculation. So far as this section of the school was concerned the inoculated boy was less likely to be taken ill, and if he were taken ill was likely to be ill for a slightly shorter time than the uninoculated boy.

The value of inoculation may, however, in certain circumstances, be much greater than these figures suggest, for the following reasons:

1. In this series the decision whether or not a boy should be inoculated rested entirely with the parents, with the result that those boys who were known to be particularly prone to colds and influenza, or were regarded by their parents as being delicate, fell mostly in the inoculated group, while those who were least susceptible and gave their parents least anxiety on grounds of health fell mostly in the uninoculated group. A better comparison for statistical purposes would be obtained if all the members of certain houses consented to be inoculated, while all the members of other houses refrained from inoculation. The two groups would then be roughly comparable as regards susceptibility.

2. The inoculations were made in or about September, whereas none of these boys in either group fell sick with influenza or feverish colds till four or five months later, when the effect of the inoculations must have largely worn off. If the epidemic had occurred in the Michaelmas term instead of the Lent term, or if the inoculations had been made in the Christmas holidays instead of the summer holidays, the advantage to the inoculated would presumably have been very much more marked. There is much to be said in favour of maintaining the immunity of susceptible individuals by giving them supplementary injections once a month throughout the winter season.

3. Anticatarrh vaccines are at least as likely to help the ordinary non-febrile catarrhal rhinitis and bronchitis, or to curtail the catarrhal stages which follow a feverish attack, as they are to help the feverish cold or influenza. But in so far as the merely unpleasant afebrile catarrhal stages are not often sufficiently serious to keep a boy out of school, the advantage of the vaccine in preventing or shortening these stages does not appear in the above figures.

4. The value of inoculation is least evident where only a small proportion of individuals is inoculated (as in the present instance), and would be most evident where all the individuals of a community were protected. For in the latter case each individual would reap the benefit of inoculation in two different ways: his immunity would be raised in virtue of his own inoculation, and his chances of infection would be lowered by reason of the inoculation of the others.—I am, etc.,

Eton, May 30th. NORMAN A. SPROTT.

BIOLOGY AND MEDICINE.

SIR,—In his address on biology and medicine (May 21st, p. 909) Dr. Haldane, after exposing the futility of vitalism, points out clearly that "the mechanistic conception of life is inadequate in physiology and morphology. For the same fundamental reasons it is inadequate in Medicine, and in pathology, pharmacology, and therapeutics." He adopts a middle course by accepting the "Hippocratic conception of life as a struggle in Nature against chaos." Since no man knows better than he that "in the process of clearing our minds controversy is unavoidable," he will forgive me when I pit my opinions against his.

Every thinking human being must be troubled with the difficulties ably set forth by Dr. Haldane. We must all realize the impossibility of vitalism on the one hand and materialism on the other. But I venture to think that Dr. Haldane, in his desire to find the way for us out of our difficulties, has added to them in two ways. He has emphasized the differences between organisms and inorganic nature at the expense of their correspondences, and has raised an unnecessary difficulty when he compares the orderliness of "life" with the chaos of the rest of the universe. But are there signs of chaos? Is not the simplest chemical formula the expression of order, and would it be possible to write it down if it were not? Why does $H_2+O=H_2O$? For two reasons. Because of the inherited normal structure of the H and O atoms—I use the adjective advisedly—and because of the orderly action of the environment, the action of an appropriate stimulus and the presence of an auxetic, catalyst, ferment, or whatever we like to call it—namely, a trace of moisture. There is no chaos here, but cosmos, normality, law, order, and necessity. There is more: a true expression of what we call "life" in its simplest and most rudimentary form. And once the molecule of H_2O is formed it functions as a whole, and its functions are very different from those of H and O. It keeps its normal composition—its individuality—as long as it can, as long as its environment permits. The most highly developed organism achieves little, if anything, more. Everywhere there is a perpetual reaction to, or struggle against, the environment, as is shown by pathology, medicine, and therapeutics.

Is not the realization that vitalism and materialism are synonymous the only way out of our difficulties? The one emphasizes function, the other structure; the inseparable aspects of a duality present alike in organic and inorganic Nature the expressions of its very essence or "life."—I am, etc.,

Guy's Hospital, S.E., May 24th. G. W. NICHOLSON.

THE DIAGNOSIS OF GANGRENE OF THE SMALL INTESTINE.

SIR,—In the BRITISH MEDICAL JOURNAL of May 7th (p. 836) Dr. B. W. Rycroft gives a most interesting account of a case of embolism of the superior mesenteric artery, in which, "puzzled by the combination of faecal vomiting, indicating bowel obstruction, and continuous [? "continued"—A.E.R.] passage of flatus, indicating bowel patency," he "made a tentative diagnosis of partial intestinal obstruction"—a very good and logical one, it may be allowed. He thinks that "the combination of faecal vomiting with persistent passage of flatus must surely be unique," and suggests that "the combination of

persistent faecal vomiting with the continued passage of flatus is so rare as to be pathognomonic of the condition of intestinal stasis due to gangrene of the small bowel following on deprivation of blood supply."

But his own diagnosis of partial intestinal obstruction includes the possibility of a Richter's hernia, in speaking of which Rose and Carless say that "if less than half the circumference of the bowel is constricted, the obstruction is not always complete at first, flatus and faeces being sometimes passed; but where more than half the circumference of the bowel is engaged, complete obstruction from kinking or paralysis of the gut ensues. The vomiting is less marked than in other cases, and is not so commonly faeculent."

"Faeculent," by the way, or "stercoraceous," is a more accurate term than "faecal" to describe the vomiting of intestinal obstruction, the word "faecal," though frequently used loosely, being better restricted to the description of the vomited matter in cases of gastro-colic fistula, in which true faecal masses may be ejected.

Richter's hernia, then, even according to the textbooks, is a condition in which the symptom of faeculent vomiting may be associated with the ability to pass flatus; and in this connexion may be mentioned the case of a man admitted to St. Bartholomew's Hospital on May 16th with a Richter's hernia of five days' duration, who vomited faeculent material (not for the first time) on arrival at hospital, and whose abdomen showed typically the characteristic ladder-pattern of small intestine obstruction, though it was only very slightly distended, owing to his continued, but impaired, ability to pass flatus—these symptoms, in conjunction with the presence of a tense tender swelling of the size of a cherry in the position of a right femoral hernia, enabling the diagnosis of a Richter's hernia to be made. Operation verified this, and showed that about two-thirds of the bowel circumference were involved. The gut was deep purple, and did not regain its normal colour on releasing the constriction; but it bled when pricked, and so far its reposition in the peritoneal cavity has been justified by the event.

The answer, then, to Dr. Rycroft is that the association of faeculent vomiting with continued ability to pass flatus is highly suggestive of partial intestinal obstruction (such a combination might also conceivably occur in peritonitis without a mechanical block), but is not "pathognomonic of gangrene of the small bowel following on deprivation of blood supply," the question of the occurrence of gangrene being irrelevant. Gangrene was not present in the case just described.—I am, etc.,

ALEX. E. ROCHE, M.D., M.Ch., F.R.C.S.,
Chief Assistant to a Surgical Unit, St. Bartholomew's Hospital.

May 21st.

SIR,—The account in your issue of May 7th (p. 836) of a case of gangrene of the small intestine prompts me to publish some notes which I once compiled on a similar case.

A man of 55, who had never had a day's illness in his life, was, after a preliminary feeling of nausea, suddenly overcome by an agonizing and persistent pain in the abdomen. He was removed next day to hospital, where I saw him. His appearance and his outcry were painful to witness, to such a degree that I felt I was confronted with a functional case. He sat bolt upright in bed, jealously guarding his abdomen from any contact, and shifting his position very gingerly from time to time. At intervals of about ten minutes, punctuated by sonorous eructations, he vomited some bilious fluid. His temperature was normal, his pulse rate 90 per minute. The pain was continuous and localized to the right of the navel. I was able to feel his abdomen only after an opiate had been given. There was neither rigidity nor distension, and nothing abnormal to be felt. The percussion note was dull in both flanks and tympanitic in front. The bowels were constipated, but were moved by an enema, an ordinary motion resulting, free from blood or slime. Some flatus was passed with this motion, but at no other time. The tongue was clean.

Next morning, when the effects of morphine had faded, his symptoms were renewed with zest. The temperature remained normal, but the pulse rate had risen to 120 per minute. Another enema was returned clear. There was a vague swelling, dull on percussion, over the painful area. Distension was still absent, and rigidity of the abdominal muscles was not marked. The vomit was bilious and not faecal. He was seen by Dr. Allan of Barrow-in-Furness, who diagnosed acute intestinal obstruction, with reservations as to the cause.

At operation, forty-eight hours after the onset, a copious blood-stained fluid welled out of the abdomen. Near the lower end of the ileum a segment of bowel, six inches long, was found, dull, indurated, and of a deep purple colour. The corresponding wedge of mesentery was deeply congested. Clamps were applied well to either side of this segment and a yard of gut was resected, together with its mesentery, right down to the root. Side-by-side anastomosis was done and the abdomen closed.

The pain persisted, apparently undiminished, for twenty-four hours after the operation. Turpentine enemata and pituitrin were given, and soon the bowels were moving spontaneously. Three days after operation a faecal fistula developed, but closed in less than a month. The man was discharged well, two months after admission. A year later he was in robust health and engaged in arduous labour.

From examination of the specimen the case was considered to be one of mesenteric thrombosis. Physical examination of the patient afforded no clue to the predisposing cause.

The delay in correct diagnosis arose through a certain resemblance to an attack of tabetic crisis. This was supported by the presence of very small and sluggish pupils, the failure to elicit knee-jerks, and the almost hysterical behaviour of the patient. The small amount of flatus passed may have been introduced with the enema.

The chief difficulty encountered at operation was that of determining the limits of the infarct. Even at a distance of a foot from the edges of the congested piece of bowel devascularization was apparent, and the occurrence of the faecal fistula can only be explained by the inclusion of unhealthy bowel in the stump.

References in literature to this condition are surprisingly rare, and such as do exist show a distinct variety in the clinical pictures that they present. In some instances intestinal obstruction has only been vaguely suggested. A constant factor is the prognosis, which, with or without operation, is sinister in the extreme. If untreated, the condition is fatal, after a period varying from three days to three weeks. The operation mortality is 85 per cent.

I have the kind permission of Dr. Allan, honorary surgeon to the North Lonsdale Hospital, Barrow-in-Furness, to make this publication.—I am, etc.,

A. LYLE GALBRAITH, M.B., Ch.B.

Worcester, May 29th.

ROOT TUBERCULOSIS IN CHILDREN.

SIR,—In the review of our book *Tuberculosis of the Lungs* in your issue of May 21st (p. 922), your reviewer condemns as wholly unjustifiable the inference we have drawn from a somewhat extended experience that in most cases of root tuberculosis in children the infection is of bovine origin. Reference to the findings of the Royal Commission on Tuberculosis, with which he suggests we are not familiar, would reveal the fact that no detailed investigation into the etiological factors in the causation of tuberculosis of bronchial glands in children was made, and that in 50 per cent. of such cases as were investigated the type of the bacillus was doubtful.

Your reviewer appears to have overlooked the fact that since the publication of the report of the Royal Commission on Tuberculosis a considerable amount of investigation has been conducted as to the cause of root tuberculosis in children, and our inference that this type of tuberculosis is probably of bovine origin is supported by recent investigation. In the eighth annual report on the work of the Glenlomond Sanatorium, Scotland, Dr. W. T. Munro states: "In an investigation into the type of tubercle bacilli found in the tracheo-bronchial glands in children who have died from any cause, in over 50 per cent. of the cases the bacilli have so far been found to be bovine."—We are, etc.,

H. HYSLOP THOMSON.
A. P. FORD.

Hertford, May 28th.

THE EPIGLOTTIS IN RESPIRATORY OBSTRUCTION UNDER ANAESTHESIA.

SIR,—Mr. H. Mortimer Wharry in his account of respiratory obstruction caused by the epiglottis raises many interesting points, as also do Dr. Magill and Mr. E. D. D. Davis in their letters on this subject.

In my opinion the normal epiglottis never causes respiratory obstruction, but I have from time to time observed the epiglottis to be so soft that it can fall into the position described by Mr. Wharry. Such softening occurs only in cases of chronic inflammation where perichondritis of the epiglottis has been a feature.

The remedy for such a difficulty in respiration would appear, however, to be much simpler than that described by Mr. Wharry, for if the epiglottis does fall down it is only necessary to introduce a large-sized tongue depressor such as Lack's and, passing it well behind the tongue, pull strongly forwards and with the other hand do artificial respiration. In cases of real difficulty, of which I have met one, the introduction of the tongue depressor in this way and of a Hewitt's airway tube passed down behind it, and kept in its position by packing gauze deeply along each side of it, will not only keep the epiglottis in position, but will control any bleeding that is going on.

It must be emphasized that such cases are of exceeding rarity, and that generally it is the tongue which causes the obstruction. Tracheotomy or laryngotomy should, in my opinion, never be necessary for such obstruction. It would, however, not be possible, I think, to pass a catheter into the trachea in such a case, for obstruction such as this does not occur during the quiet breathing of deep anaesthesia. If it occurs at all, obstruction by the epiglottis must take place either during the later stages of induction, or, as in my cases, at a time when the patient is beginning to pass out of surgical anaesthesia. It is necessary for the patient to be deeply anaesthetized if we are to pass a tube into the trachea without undue delay.

That the epiglottis has a protective function of guarding the larynx against infected saliva dribbling on to its most anterior part as Mr. Wharry suggests can, I think, be proved to be true, for if we let a patient swallow a mouthful of any harmless dye such as 0.4 per cent. indigo carmine solution, we observe the dye to be retained in the pouch between the tongue and epiglottis, from which it passes slowly to the oesophagus by way of the sinus pyriformis. It is, moreover, on the posterior portion of the larynx that infection mainly falls when this is due to swallowing the infective products of septic teeth. A secondary mechanism of course exists, which, when the epiglottis is removed, prevents saliva dribbling on the vocal cords.—I am, etc.,

Wolverhampton, May 28th. A. LOWNDES YATES.

EARLY RECORDS OF THE ASSOCIATION OF APHASIA WITH RIGHT-SIDED HEMIPLEGIA.

SIR,—It has seemed to me remarkable that any special association of aphasia with right-sided hemiplegia was not recognized till modern times. In ancient and mediaeval times the death of princes and distinguished persons was often described, and a considerable number of these must have died from cerebral haemorrhage or thrombosis; not only was any connexion between the two above-mentioned symptoms not recognized, but even their association seems hardly to have been noted.

Richard Plantagenet, Earl of Cornwall and "King of the Romans," died at Berkhamstead Castle in 1272, not very long after hearing that his eldest son, Henry, had been murdered (1271) in the Cathedral of Viterbo by Guy de Montfort. Judging from the account of Thomas Wikes, Richard's cerebral attack commenced with right-sided hemiplegia and aphasia (see Thomas Gale, *Historiae Anglicanae Scriptores Quinque*, 1687, vol. ii, p. 96). I should like to hear of other early records of the association of aphasia with right-sided hemiplegia.—I am, etc.,

London, W.1, May 28th. F. PARKES WEBER.

Obituary.

BRYDEN GLENDINING, F.R.C.S.,

Late Research Scholar, Cancer Laboratories, Middlesex Hospital.

WE regret to record the death of Bryden Glendining, which occurred at Aspley Guise, Bedfordshire, on May 19th.

He was born at Dunedin, New Zealand, in 1880. He came to England in 1898, and entered Guy's Hospital; he took the degrees of M.B., B.S.Durham in 1903. He held house appointments at Guy's Hospital during 1903 and 1904 under Sir (then Mr.) Arbuthnot Lane, and later was resident surgeon at the Hertford British Hospital in Paris. He accompanied the present Queen of Spain to Madrid on the occasion of her marriage, and he stayed in Spain for about two years as the personal medical attendant of Her Majesty.

After his return to England he became associated with Mr. Comyns Berkeley and Mr. Victor Bonney, and was made pathologist to the Chelsea Hospital for Women; while continuing to hold this post, he was elected in 1911 to an Emden Research Scholarship in the Cancer Research Laboratories of the Middlesex Hospital. During his three years' tenure of this scholarship he wrote nine papers, nearly all of which were on the subject of malignant disease in its relation to gynaecology; perhaps the most important was that on the spread of carcinoma by the Fallopian tube, in which he put forward an entirely new view as to the invasion of the Fallopian tube by carcinoma from the uterus and ovary. He adduced evidence that it may be brought about "by cancer cells which, coming in contact with the fimbriae or being swept into the lumen, engraft themselves upon the columnar cells and thence travel to deeper parts." This conclusion is of special interest in view of the opinion now held by most pathologists that pelvic endometriomatosis is in many cases due to shifting of the epithelium lining the tubes or uterus. With the caution which characterized him, he saw that the possibility of lymphatic permeation from the ovarian growths could not be entirely excluded.

By this time he was definitely committed to gynaecological work, for he had become assistant surgeon to the Chelsea Hospital for Women as well as obstetric tutor and registrar to the Middlesex Hospital; in 1912 he became gynaecological surgeon to the Hampstead General and North-West London Hospital, but continued, among all these duties, to carry out research work. He was already a man marked down among his fellows as destined to make a name for himself in the specialty at which he had worked so persistently. Late in 1913 his friends learned with dismay of a breakdown in his health. However, he resumed active work in 1914 at the Chelsea Hospital for Women and at the Hampstead Hospital, and became surgeon to the Duchess of Bedford's War Hospital, which contained 102 beds in Woburn Abbey and Woburn Cottage Hospital. He was now confronted with work of a general surgical character, and he had the fullest scope for the display of the particular genius he had for combining diagnostic acumen with operative skill. He was a bold operator, not hesitating to undertake what his pathological knowledge told him was necessary; yet in actual manipulations a lightness and sureness of touch was shown in everything he did.

A second breakdown in health at the end of 1916 entailed a rest of some months, but he returned to active work next year, and remained surgeon to the Woburn War Hospital until it was closed in 1920; he continued to act as surgeon to the Woburn Cottage Hospital until the early part of 1925, when failing health compelled him to retire from any active work. The last years were borne with a patience and courage that nothing could dim.

The blow of 1913 was one from which he never really recovered physically, but it brought into high relief the fine qualities of the man. The splendid work he did in the face of such a handicap will always be remembered by those who were in any way associated with him in it. He married the daughter of Captain G. E. Hodgson, late 44th Regiment, who survives him with an only son.

A VETERAN.—The number of officers of the Indian Medical Service who joined it under the old East India Company is rapidly diminishing. The number surviving, so far as is known, was until the other day five. It is now reduced to four by the death on March 18th of Surgeon Major JOHN THOMAS DENISON MACKENZIE, M.D., Bombay Medical Service (ret.), aged 91. He took the M.R.C.S. in 1857 and the F.R.C.S. in 1870. He entered the I.M.S. as assistant surgeon on July 23rd, 1858, passing in second, became surgeon major on July 1st, 1873, and retired on May 8th, 1878, nearly half a century ago.

Medico-Legal.

HARNETT *v.* FISHER.

JUDGEMENT OF THE HOUSE OF LORDS.

THE House of Lords, consisting of Lords Sumner, Atkinson, Wrenbury, Carson, and Blanesburgh, on May 27th, 1927, dismissed the appeal of Mr. William Smart Harnett, farmer and fruit grower of Newington, near Sittingbourne, Kent, against the verdict and judgement entered for the defendant, Dr. Holdrich Fisher, a medical practitioner of Sittingbourne, at the trial of the action brought by Mr. Harnett before Mr. Justice Horridge and a special jury in the King's Bench Division, for damages for alleged negligence in certifying Mr. Harnett as a proper person to be detained under care and treatment under the Lunacy Act, 1890.

The certificate was signed on November 10th, 1912, and the writ in the action was issued on May 31st, 1922.

The defendant pleaded, first, that he acted in good faith and with reasonable care in signing the certificate, claiming the protection of Section 330 of the Lunacy Act, 1890; and, secondly, that as the plaintiff had not issued his writ until May 31st, 1922—more than six years after the date of certification—he had allowed his right of action to be barred by the Statute of Limitations.

At the trial of the action the questions of the judge and the answers of the jury were as follows:

1. Was Mr. Harnett of unsound mind on November 10th, 1912, when he was certified by Dr. Fisher?—No.
2. Did Dr. Fisher act with reasonable care in certifying him?—No.
3. Damages?—£500.

Legal argument ensued as to whether the plaintiff's right of action was barred because he did not issue his writ within six years of the date of certification. The defence urged that, as the jury had found the plaintiff sane on November 10th, 1912, the Statute commenced to run against him on November 10th, 1918, but the plaintiff replied that although the jury had found him to be sane on November 10th, 1912, he was, in fact, detained as a lunatic, and it was this disability—specially excepted by the Statute—which prevented him from bringing his action, and he must be deemed to have been insane for the purposes of the exception.

Mr. Justice Horridge, however, entered judgement for Dr. Fisher, accepting the argument of the defence that the jury, having found that on November 10th, 1912, the plaintiff was a sane man, his right of action was barred by the Statute of Limitations, and this judgement was affirmed by the Court of Appeal, consisting of the Master of the Rolls, Warrington, and Scrutton, L.JJ., subject to a variation as to costs.

The facts of the case are fully stated in the case Harnett *v.* Bond and Adam, reported in the BRITISH MEDICAL JOURNAL of March 8th and April 12th, 1924, March 14th and May 23rd, 1925, whilst the arguments on the appeal in the present case in the House of Lords are reported in the issue of March 12th, 1927, at page 496.

The appellant appeared in person; Mr. Neilson, K.C., and Mr. Carthew (instructed by Messrs. Le Brasseur and Oakley, for the London and Counties Medical Protection Society) appeared for the respondent doctor.

Appeal Dismissed.

Lord Sumner, in his judgement, said the ground of the decision of both courts below could be tersely put thus. The jury found conclusively that on the day of the examination the appellant was of sound mind, and he was not shown ever to have been otherwise. If, then, the appellant never had been *non compos mentis* he could not bring himself within the disability section (s. 7) of the Statute of James, and the period of six years ran from November 10th, 1912. The appellant could not be allowed to blow hot and cold, and to say for the purpose of getting the verdict and damages that he was sane all along, and yet for the purpose of meeting the plea of the statute that he must nevertheless be deemed to have been insane so as to prevent time from running. The appellant, who appeared at their lordships' bar in person, not only conducted himself with great propriety and moderation, but laid his legal argument before their lordships in a way which was equally of assistance to their lordships and to his own case. He said, briefly, that under the Lunacy Act and for its purposes he was made a lunatic and treated in person and property accordingly, and that for the purpose of bringing the present action he was, in fact, to all intents, as much disabled as if he had been *non compos mentis*; that, as a practical matter, it would have been impossible for him to have begun his action till after he had made his escape; and that, on a "liberal" construction, the statute should be read as bringing that state of things within the disability section. To this his lordship was afraid he must say, as was said by both courts below,, that the Act did not say so, and could not be made to say so, without wresting it from its language in a way that was not permitted to them. The object of the Act was to protect defendants against belated claims, and not merely to protect those defendants who had a good defence, and to that extent needed no protection, but to protect those also who had not, or who owing to lapse of time could no longer count on making out a sufficient answer. The present action was an action on the case, and being within the Act was prima facie barred unless the appellant could bring himself within the only words in the disability section which touched him—namely, *non compos mentis*. What those plain words meant was further shown, if that were necessary, by the words used to express the opposite state—namely, "of sound memory." They described an actual mental condition, which the jury's word "sane" negatived, and not a treatment imposed, or a disability suffered because the plaintiff had been wrongly supposed to be in that mental state, by whosesoever fault—even that of the defendant himself—it might have been brought about. On one occasion, about a month after the reception order was made, the appellant was allowed to leave the asylum provisionally, and was actually at large for some two days. After his return he was in frequent communication with his solicitor, and occasionally saw him personally. His lordship thought, however, that one might accept the statement that even the issue of a writ against the respondent was beyond his power, much as it would have been if, though sane, he had been bedridden and in poverty. But, in the latter case, no one could doubt that his disability was not one of those named in the section. Neither would it do, if he were called insane, when he was really sane. The question was not, as the appellant put it, of the status of a lunatic imposed on him after the making of the reception order, but of his mental condition of sanity or insanity, and that had been finally disposed of in his favour by the verdict. His lordship was not concerned to justify what the Legislature had enacted, or to regret that it had gone no further to assist persons in the appellant's position. He, therefore, agreed entirely with the conclusion of the Court of Appeal.

A question was raised by one of their lordships whether the right statutory limitation had been relied on, and whether Section 331 of the Lunacy Act, 1890, or the Public Authorities Protection Act, 1893, by which that section had been repealed, did not apply. All their lordships were of opinion that leave to amend ought to be granted to the respondent in the circumstances to enable him to plead the Act of 1893, but it appeared to him (Lord Sumner) that no amendment was needed, because it really was the Statute of James that applied to this case. What was the action to which the Act of 1893 applied? It was one brought for doing, or neglecting to do, an act under any statute of the kind described, in this case the Lunacy Act. So far as the present action was concerned, the only such act was signing the certificate in the prescribed form. When, however, one looked at the statement of claim, and still more at the substance of the case as proved at the trial and since alleged on two appeals, the gist of the action was not the signing of the prescribed form of certificate but the lack of care in examining into the appellant's mental state and in forming an adverse opinion about it. The negligence for which the action was brought could only arise in that connexion. The claim was not for breach of a statutory but of a common-law duty. Negligence as a medical practitioner acting in the course of his private practice was what was charged against the respondent. Any principle on which that cause of action could be sustained would be equally applicable if the defendant had signed nothing, but had given his opinion to the magistrate orally. The rest was either a separate cause of action under the Lunacy Act, for which no damage could be recovered, since the detention order was the order of the justice and not of the doctor, or was a mere item in the damages claimed for the negligence. It might be that in view of Section 317 (2) of the Lunacy Act, 1890, the proceedings to be taken in case of misstatements made in medical certificates under the Act were criminal proceedings only. In his opinion the present cause of action being on the case for an alleged common-law breach of duty, the Statute of James was the statute applicable. He thought that, whether the pleadings were amended or not, the appeal ought to be dismissed with costs.

Judgement of Lord Atkinson.

Lord Atkinson, in his judgement, said their lordships concurred with the Court of Appeal. They thought the decision of the Court of Appeal was perfectly sound and right on the question raised before them. During the progress of the hearing in that House, however, attention was called by one noble lord to the question of the possible application of the provisions of the Public Authorities Protection Act, 1893, to certain provisions of the Lunacy Act of 1890. This was a matter of such importance that it should be dealt with. The Act of 1893 repealed Section 331 of the Lunacy Act, 1890, which provided that any action brought by any person who had been detained as a lunatic against any person for anything done should be commenced within twelve months next after the *release* of the party bringing the action. This section would not apply to the appellant, even if not repealed, as he was not

released from Dr. Adams's licensed house where he was detained, but from which he escaped.

It might well be that a medical man who treated a patient, or purported to express an opinion on that patient's bodily or mental state of health, was bound to do the work he had undertaken to do with reasonable care and skill. In this case it was found by the jury that the respondent was guilty of negligence in giving a certificate pursuant to the provisions of Section 4 of the Lunacy Act, 1890. Well, negligence was a breach of duty, but the question was to whom was this duty to use reasonable skill and care owed. This action was founded on the assumption that it was owed to the appellant. The additional question whether it was owed to any other person or body, and if so, to whom or what authority was the alleged act of the defendant in exercising due and reasonable skill and care in granting his certificate, an act done in pursuance or execution or intended execution of an Act of Parliament, or of any public duty, or authority, or in respect of any alleged neglect or default in the execution of such Act of Parliament, duty, or authority. The language of the Act did not cover all the acts which a local authority had power to perform. It was because the act was one which was either an act in the direct execution of a statute or in discharge of a public duty or in the exercise of a public authority that it was covered. It was difficult to see on what principle a petitioner who was guilty of negligence in framing his statement of particulars, but not guilty of misstatements of any material fact, should not be liable to be sued for that negligence, as the doctor might be who negligently framed his certificate on examining the alleged lunatic. If the latter came within the statute of 1893, the former would seem necessarily to be within it also, as he was within the 317th section of the statute. Lord Atkinson referred to Section 28 of the Act of 1890, and also to Sections 29, 31, 32, and 33, and proceeded to say that thus everything that could well be done had been done to detach the medical practitioner who signed one of these certificates from the staff of the institution in which the lunatic was to be confined. He could not have any interest in the payments made on account of any patent confined. In one sense, the general public in a community had an interest in the ability, skill, qualification, and effectiveness of the medical men residing and practising in that community. The aid of one or more of these could, in any case, if need be, be obtained by private contract, but in the matter of the reception of an alleged lunatic to an asylum or house licensed, the giver of a certificate owed no duty to the general public or to any public institution or authority *whatever*. He was not a member or employee of the State or of any municipal body carrying on certain services for such bodies. He was simply engaged as a medical man by a patient to give an opinion as to that patient's state of health, as he would be to diagnose the state of health of any patient who, in his daily practice, called upon him to prescribe for him. Lord Atkinson, therefore, was clearly of opinion that the Public Authorities Protection Act, 1893, did not apply to the appellant's action, and that his remedy was barred by the Act of James.

Judgement of Lord Blanesburgh.

Lord Blanesburgh, in his judgement, said by the verdicts now of two juries, the plaintiff, in Lord Buckmaster's words in Harnett *v.* Bond: "while a sane man has been imprisoned in a private lunatic asylum and it follows that he has suffered a grievous wrong for which no money payment can provide an adequate compensation." The plaintiff's moderation and ability displayed in this case only served to disclose as in a flash the extent of that wrong. But great as it had been it could furnish no justification for an order upon the respondent to make the money payment which the jury here had awarded against him, if in truth the appellant's claim against the respondent was out of time and the objection that it was had been properly taken. And, if the Statute of James applied to this case at all, it must be agreed that the action was out of time. The argument of the appellant upon the construction of that Act, sensible and forcible though it was, left almost untouched the reasoning and conclusions both of Horridge J. and the Court of Appeal, but that argument raised in his (Lord Blanesburgh's) mind, at all events, the gravest doubt whether the limitation statute to which such a construction was applicable could really have been left by the Legislature to govern this particular claim. If it were the function of an appropriate limitation period to hold the scales evenly between the plaintiff and defendant, the Statute of James seemed to be singularly unsuited to a claim like the present—equally so, indeed, whether its true construction was that for which the appellant contended, or that put forward by the respondent. On either view, the statute must, if applicable, bring, in not a few similar cases, dire results in its train. If, for example, the appellant's contention were to be upheld that in such a case as this the duration of a plaintiff's *de facto* insanity imputed to him as a result of the defendant's certificate was, like a period of genuine insanity, to be excised from the limitation period, it would indeed be oppressive on a medical defendant acting as the respondent here acted, in perfect good faith, that, not within a short period after the disability ceased, but in a suit commenced six years later, he might be called upon to justify his actions, possibly almost, if not entirely, forgotten. If, on the other hand, during the same *de facto* disability, with consequences to a plaintiff as devastating and paralysing in their incidents and restraints as if he were in fact insane, time, as the respondent contended, was continuously running in favour of the defendant, it would only be necessary that the period of restraint should be sufficiently prolonged, and the wrong done to the plaintiff in that respect sufficiently grievous, for him to be deprived by the statute of all remedy, however unjustifiable, or even malicious, the defendant's acts might have been. But the improbability that the Legislature had left a claim of this kind to be governed in the matter of limitation by a statute so clumsily inappropriate was shown also by considerations still more pertinent. The provisions of Section 82 of the Lunacy Act itself were even more significant in that direction. By that section it was provided that the Secretary to the Commissioners should, *upon the discharge* of a person who considered himself to have been unjustly confined as a lunatic, furnish to him upon his request, free of expense, a copy of the reception order and certificate or certificates upon which he was confined, and, if the order was made upon petition, also of the petition and statement of particulars upon which the reception order was made. That was to say, it was only upon his discharge that the person considering himself to have been unjustly confined was to be supplied with a copy of the certificate upon which his claim to redress in such an action as this depended. Could it have been supposed by the Legislature when enacting that section that the claim of the person so unjustly confined might by that time have become statute-barred? He (Lord Blanesburgh) did not think so, and thus was he led to inquire for himself whether some other period of limitation than that devised by the Legislature for a claim like this, a limitation period which would be consistent with the implications of Section 82, and would be free from the injustice to those in the appellant's position which the Statute of James, had it been left applicable, might bring in its train. And, on examination, he had reached the conclusion that there was such a limitation period in fact specially prescribed by statute; and, relatively unimportant as in the present instance the result might be to the appellant, the principle involved might be of such wide-reaching consequences in other cases that he made no apology for directing their lordships' attention to the matter with some particularity. In his original defence the respondent had pleaded only one limitation, Section 331 of the Lunacy Act, 1890, which provided that "any action brought by any person who has been detained as a lunatic against any person for anything done under this Act shall be commenced within twelve months next after the release of the party bringing the action," a provision which, it would be noted, was in entire consonance with Section 82, to which reference had already been made. The corresponding Section 105 of the Lunacy Act, 1845, then in force, was treated by Crompton J. in Hall *v.* Simple as the appropriate limitation statute in a case like this. Section 331 of the Lunacy Act was accordingly well pleaded, but that section was repealed in 1893, a fact which apparently was overlooked when the defence was delivered. Presumably, the repeal was subsequently discovered by the defendant's advisers, and, under an order dated December 16th, 1925, the defence was amended by adding a paragraph to the effect that the plaintiff's alleged rights of action were barred by the Statute of James, the Limitation Act, 1623. In other respects, however, the defence remained unamended; Section 331 of the Lunacy Act, 1890, was still pleaded in paragraph 4. If he (Lord Blanesburgh) had correctly appreciated and faithfully recorded the true limits and scope of this suit as fought and decided, he could not himself doubt that if Section 331 of the Lunacy Act had remained unrepealed, that section, and it alone, prescribed the only period of limitation to which this action was subjected. Was, then, that position, which went back at all events to 1845, entirely lost now, although Section 82 of the Act still remained in force? In his (Lord Blanesburgh's) judgement, no. The section, although repealed, still spoke, albeit in modified terms. The repeal was effected by the Public Authorities Protection Act, 1893, an enactment whose purpose was to generalize and amend certain statutory provisions for the protection of persons acting in the execution of statutory or other public duties, and difficult as it had been in many cases to ascertain the true effect of that enactment, no difficulty arose in that instance. Lord Blanesburgh read the provision in the Act of 1893, prescribing a limitation of six months, and said he had no doubt that in that amended form Section 331 of the Act of 1890 still operated, applicable as before to the respondent's certificate but shortening the period after what in the Act of 1890, in the case of a plaintiff who had been detained as a lunatic, was termed his "release," to a term which without doubt or possible question made it a complete bar to the present suit. For while, if Section 331 had been the section applicable, there might have been some question whether the detention for which the respondent was responsible came to an end within twelve months before the institution of the action, he (Lord Blanesburgh)—in agreement with Lord Atkinson—thought it had come to an end more than six months before its institution. The appellant escaped finally from confinement on October 15th, 1921, and this action was not commenced until May 31st, 1922. In his (Lord Blanesburgh's) judgement, therefore, the Act of 1893 was the Statute of Limitations, and the only Statute of Limitations, which applied to that action. If pleaded, it would have been a complete answer. But it was not pleaded. Accordingly, unless leave was now given to the respondent to amend his defence by rectifying that omission, he had no answer to this appeal.

Lord Blanesburgh proceeded to say that the terms on which leave should be given to amend, if they rested with him, would be that as the price of the amendment the respondent should lose the costs of the appeal. As would be seen, however, the appellant gained little by this finding in his favour, but other plaintiffs in his position might gain much. The view he (Lord Blanesburgh) had presented might be wrong. But, if it was, a very serious state of things was thereby disclosed. For it resulted that Section 331, prescribing a period of limitation at least as old as the Act of 1845, and sensible and fair in its operation, had been repealed by a general Act with no corresponding provision substituted, and with the result that plaintiffs in the position of the appellant were now, for the first time, he (Lord Blanesburgh) thought, relegated to the Statute of James, which was entirely inappropriate to their case. If this appeal fulfilled no other

useful purpose it would at least have served to draw the attention of those engaged in the amendment of the Lunacy Laws to a matter which was not unworthy of their consideration.

Lord Wrenbury and Lord Carson concurred.

DE FREVILLE *v.* DILL: RE-HEARING.

AFTER a hearing, which lasted eight days, of the action in the King's Bench Division, before Mr. Justice McCardie and a special jury, brought by Mrs. May de Freville against Dr. A. V. Dill, a medical practitioner of Brimscombe, Stroud, for damages for alleged lack of reasonable care in certifying her to be a lunatic on June 9th, 1926, and for alleged assault and false imprisonment, the jury, on May 28th, returned a verdict for the plaintiff and assessed the damages at £50. Judgement was deferred until next term.

Dr. Dill pleaded that he signed the certificate in good faith and that he acted with reasonable care, claiming the protection of Section 330 of the Lunacy Act, 1890; he further said that his conclusions regarding the plaintiff's condition at the time of her certification were correct.

It will be remembered that when this case was first heard before Mr. Justice Avory the special jury came to a premature decision adverse to the defendant before the evidence for the defence was concluded, and that, in those circumstances, Mr. Justice Avory discharged the jury without recording their verdict. The facts of the case are fully set out in the report of the previous hearing, which is contained in the issue of the BRITISH MEDICAL JOURNAL of April 9th, at page 705.

Briefly, the plaintiff's case was, that on June 9th, 1926, when she returned to Oakridge Vicarage after visiting her father, her husband put her out of the vicarage. She was very angry, and, as she desired to see her little son, she entered the vicarage by the servants' entrance. Her father-in-law, the vicar, however, kept her in the servants' hall while he telephoned to the defendant, who came and certified her as suffering from acute mania, ordering her removal to Gloucester County Asylum. The following day the plaintiff was duly examined, pronounced sane, and discharged.

Mr. J. W. J. Cremlyn and Mr. Comyn Maitland (instructed by Mr. H. Coulson) appeared for the plaintiff; Mr. Singleton, K.C., and Mr. W. H. Gattie (instructed by Messrs. Le Brasseur and Oakley, for the London and Counties Medical Protection Society) appeared for the defendant.

The Summing-up of Mr. Justice McCardie.

On the eighth day of the hearing Mr. Justice McCardie summed up, and said that, as any suggestion of bad faith had been wholly withdrawn, the only issue for the jury to consider was whether Dr. Dill had exercised reasonable care in certifying the plaintiff. The action was important, first, from the point of view of Mrs. de Freville, because it involved the liberty of the subject; secondly, from the point of view of Dr. Dill, because it affected his character and reputation as a medical man; and thirdly, from the point of view of the general public, to whom the administration of the lunacy law was of vital concern. Litigation of the character of the present case had not been infrequent in recent years, and it might be that, as a result of it, many medical men had refused to take any part in certifying patients under the Lunacy Acts. It might be that, whatever was the verdict of the jury in the present case, many more medical men would decline to give certificates if they might be made subject to litigation because they had become embroiled in embittered family strife with which they had nothing to do. It was a serious matter that the Lunacy Acts contained no definition whatever of insanity, of unsoundness of mind, or of lunacy; that they provided no test, set no standard, and gave no guidance with regard to those matters. The keynote throughout the Acts was, first, the welfare of the patient, and secondly, the public safety, which might require that the patient be put under care and treatment. From the medical point of view no textbook gave any definition of insanity, unsoundness of mind, or lunacy, and he had never in the course of his experience at the Bar and on the Bench known a doctor who was able to give a definition of those things. That illustrated the grave considerations which should be present to the mind of a jury who had to decide whether or not a doctor had acted with reasonable care. A doctor who was called in to deal with an alleged lunatic was dealing with the most difficult subject known to the medical profession. The forms taken by unsoundness of mind were many, while diagnosis and classification were difficult. Not only did the forms and symptoms vary, but each varied in degree, in gravity, and in intensity. Symptoms and outbreaks might be intermittent, and might vary year by year, month by month, and day by day. What, then, was the position of a doctor who was dealing with a question such as that? The matter had been put in the best and most practical working form for the consideration of a jury by Lord Haldane, in the course of the judgement he delivered in the House of Lords in Everett *v.* Griffiths, reported in the Law Reports, 1921, 1. A.C., 631, at page 654, when he said of the plaintiff in that case: "To-day he is sane in his conduct, and probably was so very soon after the occurrences in question. But the point is, whether at the time of these occurrences he had so lost his capacity for self-control as to be, temporarily at least, to all appearances of unsound mind within the meaning of the statute which takes account of his relations to others as well as to himself." The jury must remember that the Lunacy Acts had to be administered and certificates had to be given not only by London specialists and other experienced practitioners in great cities, but also often by ordinary country doctors. It was one thing to come to a decision whether or not a certificate should have been given in the present case after several days' hearing of the evidence on both sides and the addresses of counsel; it was another thing to come to a decision in a room in a country parsonage. A general medical practitioner gave no warranty of special skill or knowledge. He was bound to exercise due care having regard to the skill and knowledge which he actually possessed.

Universities and Colleges.

VICTORIA UNIVERSITY OF MANCHESTER.

THE county borough of Stockport has increased its annual grant to the University from £250 to £400.

The Council has accepted the resignation of Dr. G. S. Wilson, Lecturer in Bacteriology and Assistant Director of the Public Health Laboratory, on his appointment as Reader in Bacteriology and Immunology in the University of London.

NATIONAL UNIVERSITY OF IRELAND.

THE following appointments have been made:

University College, Dublin.—Professorship of Medicine, Henry F. Moore, M.D., D.Sc.; Professorship of Systemic Medicine, James N. Meenan, M.B., B.Ch.; Professorship of Pathology and Bacteriology, Thomas T. O'Farrell, F.R.C.S.I.; Professorship of Public Health and Bacteriology, William D. O'Kelly, M.D., D.Sc.

The following degrees and diplomas were conferred on May 14th

M.B., B.Ch., B.A.O.—T. F. J. Ryan, J. A. Browne, M. Coghlan, C. J. McCarthy, J. V. McLoughlin, J. E. MacMahon, J. P. Marren, A. V. O'Brien, Catherine Purcell, J. G. Ryan, E. P. Walsh.

M.D.—J. M. Hayden, H. J. Phillips, J. C. Troy.

D.P.H.—Margaret Bergin, M. Downey, Hilda M. Doyle, Mary P. Power.

The Services.

INDIAN MEDICAL SERVICE DINNER.

THE annual dinner of the Indian Medical Service will be held at the Trocadero Restaurant on Wednesday, June 15th, at 7.15 for 7.30 p.m. Major-General R. W. S. Lyons has been invited to take the chair. Tickets and all particulars may be obtained from the joint honorary secretary, Colonel J. J. Pratt, I.M.S. (ret.), 18, Nevern Mansions, Warwick Road, London, S.W.5.

DEATHS IN THE SERVICES.

LIEUT.-COLONEL JOSEPH WILLIAM TOWNSEND ANDERSON, Bombay Medical Service (ret.), died at West Kensington on May 12th. He was born at Karachi on November 5th, 1852, the son of Joseph Anderson of the I.M.D., and studied at the medical schools of St. Bartholomew's and Charing Cross, and at Edinburgh and St. Andrews Universities; he took the L.S.A. in 1878, and the L.R.C.P. and S.Ed. in 1879; he became F.R.C.S.Ed. in 1891. Entering the I.M.S. as surgeon on October 2nd, 1880, he became lieutenant-colonel after twenty years' service, and retired, with an extra pension, on April 15th, 1906. For some years before his retirement he had been civil surgeon of Ahmedabad, and superintendent of the Byramji Jijibhai medical school, and of the lunatic asylum at that station. He served in the Burma war in 1886-87.

Lieut.-Colonel William Hamilton Kenrick, Indian Medical Service (ret.), died at Virginia Water on May 7th, aged 58. He was the son of William Wynn Kenrick, colliery proprietor and mining engineer, of Ruabon, and, after taking the M.R.C.S. and L.R.C.P. in London in 1895, entered the I.M.S. on January 28th, 1897, being one of the first batch gazetted to the General List of the I.M.S., which started in that year. He became lieutenant-colonel on July 29th, 1916, and retired on July 28th, 1924. He served on the North-West Frontier in the campaigns of 1897-98, including the Tochi Valley campaign (medal with clasp); the operations on Samana and in the Kurram Valley (clasp); and Tirah, in the actions at Dargai and on the Sampagha and Arhanga Passes (clasp); also in the China war of 1900, when he took part in the relief of Pekin, and in the actions at Pientsan and Yangtsen he was mentioned in dispatches and received the medal with a clasp. In May, 1905, he took civil employment in the Central Provinces, and remained there for the rest of his service, except that he was recalled to military duty from October, 1918, to May, 1921. He was the author of a work on *Malaria in the Central Provinces*, 1916.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons, after spending another three days in Committee on the Trade Disputes and Trade Unions Bill, adjourned over Whitsuntide on June 2nd. On May 31st Mr. Buxton introduced a bill to provide for the humane slaughtering of animals. The backers of this bill included Dr. Drummond Shiels.

"Trade Unionism" and Medicine.

On May 27th, when the House of Commons was in Committee on Clause 4 of the Trade Disputes and Trade Unions Bill, Dr. Vernon Davies made a personal statement. He had found that some of the statements which he had made on May 23rd, when answering allegations by Mr. J. J. Lawson concerning the British Medical Association, were inaccurate. Dr. Davies asked permission to read a letter from the Medical Secretary of the British Medical Association, saying this fully explained the matter. He added that he was not reflecting in any way on Mr. Lawson. He merely wished to put himself right at the first opportunity. The Chairman (Mr. J. F. Hope) said there could be no objection to that. Dr. Davies then read the letter he had received from the Medical Secretary of the Association. This ran:

> "In your references to the British Medical Association you made certain statements which are not borne out by the facts, and I feel sure you would like to be put right in case the question should arise on a future occasion. The form of application for membership of the British Medical Association which a man who wishes to join signs, says: 'I agree if elected to pay the subscription and to abide by the articles and by-laws of the Association for the time being in force, and the rules of the Division or Branch to which I may at any time belong.'
>
> "In twenty-five years only 35 members have been expelled, and these have all been for conduct which has been declared after a careful inquiry to be 'detrimental to the honour and interests of the medical profession.' Then, you go on to describe what happens if a man takes an appointment to which the Association objects. You say the Association says, 'We cannot penalize you. We cannot turn you out of the Association, and we cannot advise anybody to have nothing to do with you.' We can, as a matter of fact, turn such a man out of the Association, and very occasionally we have done so. As regards advising people to have nothing to do with him, there is the power, after a careful inquiry surrounded by all sorts of safeguards, and after declaring that the conduct of the practitioner has been 'detrimental to the honour and interests of the medical profession,' for a Division to issue a notice to its members stating that 'It is undesirable that a member of the Division should meet in consultation or accord any professional recognition (other than such as may be necessary in the discharge of an official duty by a public medical officer or in circumstances of great urgency affecting the life of a patient) to a medical practitioner who shall have been declared by resolution of the Division to have acted in contravention of any rule or resolution of the Division as to professional conduct, of which such practitioner shall be proved to have had notice in accordance with these rules, or who shall have been declared by resolution of the Division to be deemed guilty of conduct detrimental to the honour and interests of the medical profession.' This action has only been taken with regard to seven practitioners since 1902. I think it only right that I should make clear to you that, like all other associations, we have certain legal powers of dealing with members whose conduct is considered to be against the interests of the Association, and we also have the right, as has been proved by legal decisions, both general and in our own case specifically, to decline to meet persons professionally after an inquiry made in a judicial manner and in accordance with rules which are carefully laid down."

The Chairman remarked that this appeared to be a statement dealing with the disciplinary regulations of the British Medical Association. It could not be discussed and was not relevant to a discussion on the political funds of trade unions. Dr. Davies remarked that on May 23rd he had stated specifically that members of the British Medical Association were not expelled and that they were compelled to meet in consultation, when a life was at stake, professional men of whose conduct they disapproved. The letter he had read, an official letter from the British Medical Association, showed that members had been expelled from the Association and that they could withdraw. He thanked the House for allowing him to make the explanation. Mr. A. V. Alexander asked Dr. Davies to tell the Committee whether the British Medical Association paid any of the election expenses of doctors who sat in the House; whether they kept their funds separate, and whether any member could reclaim. The Chairman intervened, and Dr. Davies remarked that Mr. Alexander's question was irrelevant, but that he would afterwards give the information asked, so that it could be passed on to Labour members. Speaking on the amendment before the House, Dr. Davies said that in Lancashire trade union officials and those of other bodies had a method of canvassing and collecting subscriptions at the workers' houses, usually from the wives. He argued that the collection of the political levy by such means should be prohibited. Mr. Lee asked if Dr. Davies knew that medical men's salaries were paid in Lancashire by this method. Dr. Davies said he wished that members would forget for the moment that he was a medical man. He was speaking as the representative of an industrial constituency, with a knowledge of the industrial and social life of the workers, acquired as a factory surgeon. Mr. Tinker congratulated Dr. Davies on having the courage to rectify the mistake he had made.

Mr. Cape said that certain medical men had resorted to the canvassing methods against which Dr. Davies had spoken. They had done so not for political but for financial purposes. When health insurance became compulsory, doctors who had been the medical advisers of men, asked those men to sign forms so that those practitioners might become their panel doctors. Mr. Mackinder also referred to Dr. Davies's statement about the collection of trade union subscriptions from door to door and declared that hon. member did not understand the trade union movement.

Small-pox.

Answering Mr. West Russell, on May 26th, Sir Kingsley Wood said small-pox had been prevalent in Northumberland since 1924. Up to May 21st, 1927, approximately 2,300 cases had been notified. The areas chiefly affected were Ashington, Bedlington, Newcastle, Morpeth, Prudhoe, and Tynemouth. The Minister of Health thought the local authorities had adequate powers and that these powers were being exercised. The original source of the infection was unknown. In a number of cases where vaccination failed to protect it had been done many years ago. The Minister desired the public to know that the most effective measure against small-pox was to make free use of public vaccination. Dr. Salter asked whether the Ministry was satisfied that the mild disease in Northumberland and Durham was the same as the disease recently so fatal at Hendon. Sir Kingsley Wood said the Ministry was satisfied that the disease was small-pox and that vaccination was the best preventive.

On May 30th Sir K. Wood told Sir N. Grattan Doyle that the Minister of Health had not yet obtained complete information as to the vaccinal condition of those cases of small-pox which had occurred in Northumberland and Durham during the past eight weeks. This information, which should cover all cases at present known to be infected, would shortly be available.

Asked whether he was prepared to take steps to ensure that statutory declarations of parents against vaccination should not be open to public inspection, Mr. Chamberlain said this course would not serve a useful purpose. The register under the Vaccination Act of 1867 would still be open to inspection.

Government Vaccine Lymph.

On May 30th Sir K. Wood, replying to Sir W. Davison and Dr. Vernon Davies, said that the reputation of Government lymph had been achieved, not only by its quality and consistency, but by the close attention given to its results by means of official inspection and records. If Government lymph were to be made available to private practitioners generally, it would appear very difficult, if not impossible, to ensure similar checks and controls. As from August next all vaccine lymph sold in this country would by virtue of the Therapeutic Substances Act, 1925, come under official control and would be required to conform to prescribed standards of potency and purity. The Minister of Health proposed to give some further consideration to the question, but it seemed doubtful, in view of the foregoing observations, whether any departure from present practice would be justified.

Dr. Davies asked if Sir Kingsley Wood had seen the letter on this subject from Dr. S. Monckton Copeman—who was one of those who originally used "glycerinated lymph"—which had appeared in the *Times*. Having in mind the prevalence of small-pox, would it not be possible to see that Government lymph was sold to practitioners? Sir K. Wood said that there was no mention in the letter of the very important effect the Therapeutic Substances Act would have. Sir W. Davison asked whether it would not be desirable to make some temporary arrangement until August to supply lymph to any practitioners who desired to have it. Sir K. Wood replied that in all cases where there was an epidemic arrangements were made with the medical practitioners for the supply of Government lymph. Under the new Act the natural desire, which everyone shared, that all lymph should be of the proper standard of efficiency would be achieved.

Shop Acts, 1920 and 1921.

On May 25th, at a sitting of the Committee which is inquiring into the working of the Early Closing Acts, evidence as to the nutritive value of ice-cream was given by Mr. A. Pompa, secretary of the Ice-cream and Temperance Traders' Federation of Great Britain. He said that ice-cream had three or four times the calorie content of fresh milk. When ice-cream was unsold at night it was not necessarily thrown away. More ice and salt were packed round the freezer in the tub so as to keep the ice-cream hard and prevent bacterial contamination, and the ice-cream was sold the next day. In the case of small shops, it could be taken for granted that extra supplies of ice and perhaps of freezing salt were not available until the next morning. In this case ice-cream melted during the night and bacteria bred. It probably also picked up metallic contamination from the metal freezer. The Committee adjourned till May 31st.

National Health Insurance.—Answering Mr. Cooper, Mr. Chamberlain said he had submitted the recommendations of the Royal Commission on National Health Insurance to the Consultative Council on Approved Societies' Work. Five meetings had been devoted to considering the recommendations, and the views of the Council thereon had been communicated to him.

A few recommendations remained to be considered and would come before the Council at an early date. An amending bill would then be prepared, but there was little likelihood of its introduction during the present session.

Foot-and-Mouth Disease in Switzerland.—On May 30th Major Ainsworth asked whether, in view of the existence of foot-and-mouth disease in Switzerland, the Minister of Agriculture was satisfied that the condensed milk imported into Great Britain from that county was free from contamination. Mr. Guinness said that he was informed that the process of condensing milk necessitated the maintenance for some time of temperatures sufficient to destroy the virus of foot-and-mouth disease.

Shanghai Defence Force.—On May 31st Sir L. Worthington-Evans said that he was unable to state the total number of admissions to hospital of troops of the Shanghai Defence Force. The average weekly number of officers and men of the force and the permanent garrison at Hong-Kong, including Indian troops, who were in hospital during the four weeks ending May 20th was 15 and 860 respectively.

Motor Horns.—Colonel Ashley, replying on May 31st to Mr. Pethick-Lawrence, who asked if he had received complaints as to cases of nervous shock caused by the unnecessary use of strident motor horns, said he was aware that unnecessary noise was sometimes made. The point had been under consideration in connexion with the Draft Road Traffic Bill, but it seemed to him more a question of education in the courtesies of the road than a matter for legislation, as it would be extremely difficult to lay down a definite and enforceable standard of noise.

Dirty Milk.—Sir K. Wood, replying to a question on May 31st, said that the Minister of Health had seen the report of the medical officer of health for Workington, in which it was stated that 79 per cent. of the milk for sale was found to contain cow-dung, hairs, and dirt. The samples mentioned in that report were classified as 31 per cent. clean, 31 per cent. fair, and 38 per cent. dirty. In a later report, which had been presented to the town council within the last few days, a marked improvement was indicated, the result of an examination of a further set of samples being given as 75 per cent. clean, 12.5 per cent. fair, and 12.5 per cent. dirty. In reply to another question it was stated that the Minister of Health had no reason to believe that the licence fees paid by producers of graded milk, which represented only a part of the cost of inspection and bacteriological examination, had had a deterrent effect on the production of clean milk. He did not at present propose to abolish the fees.

Ornamental Waters.—Captain Hacking, replying on May 30th to Sir W. Davison, who asked if his attention had been called to the odour arising from the ornamental water in St. James's Park, "which in some cases had caused sore throats to those sitting by the water," said that attention had been drawn to the matter. Measures were being taken which, it was hoped, would provide an effective remedy. Sir W. Davison asked if Captain Hacking was aware that the same thing occurred in 1910 and 1911, and that then it was successfully dealt with. Captain Hacking said that the Office of Works, in order to effect economy, had not run fresh water continuously into St. James's Park lake. The pumping of water from the Serpentine, however, was creating a current which would probably have the desired effect.

Pasteurized Milk.—The Ministry of Health provisionally estimates that between 5 and 10 per cent. of the liquid milk sold in England and Wales is pasteurized.

THE COLONIAL CONFERENCE.

NEED FOR RESEARCH, MEDICAL AND OTHER.

THE Colonial Office Conference, in which officials representing Crown Colonies and Protectorates have been meeting the Colonial Secretary, Mr. Amery, at Downing Street, ended on May 31st. In his closing statement, Mr. Amery remarked that the Conference had endorsed wholeheartedly the principle of an efficient central organization in the field of scientific research. The Conference had instructed the new joint Medical Research Council, of whose setting up it had approved, to work out proposals for a scheme of medical research which would be on no less broad a basis than the scheme of agricultural research which the Conference had considered and approved on May 27th. In the same report the Conference's Committee on Colonial Scientific and Research Services stated that the British Colonial administrations were responsible for the health and prosperity of a large number of human beings, though the number was small in proportion to the territory they inhabit. This comparative sparsity of population was most noticeable in tropical Africa. The area of the tropical African dependencies was greater than that of India and Burma, but their population was less than one-sixth of that of those countries. This sparsity of population was mainly due, on the one hand, to centuries of warfare and to the slave trade; on the other, to the ravages of disease—diseases of man and diseases of stock. The establishment of the Pax Britannica and the development of an efficient administration had done away with warfare and the slave trade, but the Committee remarked that medicine, in alliance with veterinary science, could alone combat disease. The population of the Colonies should increase rapidly as the result of settled government and of the progress in tropical medicine and hygiene. As an illustration of the necessity for shielding the population from the attacks of disease the Committee recalled that in the years 1902 and 1903 more than one-tenth of the native population of Uganda was wiped out by trypanosomiasis. There was no organization whatsoever in the Colonies which viewed the problems of science as a whole.

Reviewing the present position of medicine in the Colonies, the report remarked that the first great stimulus to research in any branch of science was given in the closing years of last century, though much work of great value had previously been done. While Mr. Joseph Chamberlain held the seals of the Colonial Department two great institutions were founded—the London and Liverpool Schools of Tropical Medicine. At the same period the Tropical Diseases Research Fund, with an advisory committee, was created to advise the Secretary of State on the administration of the Fund and on any matters connected with medical research that might be referred to it. Since that time the Bureau of Hygiene and Tropical Diseases had been instituted to deal with the collection and distribution of information with regard to hygiene and tropical diseases, including the diseases of animals.

The Advisory Committee of the Tropical Diseases Research Fund was now in progress of reconstitution. A new body was being formed by the Secretary of State for the Colonies, partly of nominees of the Medical Research Council and partly of members nominated for their knowledge of medical research in the tropics. The chairman was to be a layman, and the duties of the new body would be to advise the Secretary of State on questions affecting research in the Colonies, to advise on the administration of the Research Fund, and to form the connecting link between the developments of medical science at home and in the Colonies. A chief medical adviser to the Secretary of State for the Colonies had also recently been appointed.

The Committee further reported that it had decided to leave the question of medical organization on one side, as the new Medical Research Committee had only recently been constituted and it was desirable to allow it to examine the position fully before embarking on any definite proposals. The conference, however, recommended that it should be one of the first duties of the new Colonial Medical Research Committee to consider the establishment of a Colonial Medical Research Service. A unified research service was recommended for Colonial agriculture, and the hope was expressed that the veterinary service might be similarly organized before long.

Medical News.

THE Mackenzie Davidson Memorial Lecture for this year—the eighth of the series—will be given by Sir Humphry Rolleston, Bt., Regius Professor of Physic in the University of Cambridge. The subject will be protection and other radiological problems; it will be delivered at the house of the Royal Society of Medicine on Thursday, June 30th, at 8 p.m. The lecture is arranged by the Röntgen Society and the Electro-therapeutics Section of the Royal Society of Medicine. As already announced, the Sylvanus Thompson Memorial Lecture of the Röntgen Society will be given by Sir J. J. Thomson, O.M., F.R.S., on Tuesday, June 14th, at the same place at 8.30 p.m. The subject is the structure of the atom and radiation.

THE Bolingbroke Lecture of the South-West London Medical Society will be delivered by Mr. W. McAdam Eccles, M.S., F.R.C.S., in the Bolingbroke Hospital, Wandsworth Common, S.W.11, on Wednesday, June 8th, at 9 p.m. The subject will be the romance of foetal pathology. The lecture will be open to any member of the medical profession.

MR. T. W. LETCHWORTH will give a special clinical demonstration for the Fellowship of Medicine at the Royal Eye Hospital on June 9th, at 3 p.m., free to medical practitioners. The Chelsea Hospital for Women hold a two weeks' course in Gynaecology from June 8th to 21st, and an afternoon course will be provided at the Central London Ophthalmic Hospital from June 8th to 29th, with an operative class if desired. The Children's Clinic in conjunction with the National Hospital for Diseases of the Heart, the Royal National Orthopaedic Hospital, and the Royal Waterloo Hospital will hold a special course in diseases of children from June 13th to 25th. There will be an afternoon course at the Hospital for Diseases of the Skin, Blackfriars, from June 20th to July 1st; special cases of interest will be shown each Tuesday. From June 27th to July 9th the Victoria Park Hospital will provide a special course in all forms of pulmonary disease. The Fellowship of Medicine can arrange for practical courses in anaesthetics and obstetrics and for clinical assistantships in gynaecology. Copies of all syllabuses and of the *Post-Graduate Medical Journal* are obtainable from the secretary of the Fellowship, 1, Wimpole Street, W.1.

SIR DONALD MACALISTER, Bt., has been reappointed a member of the governing body of the Imperial College of Science and Technology for a further term of four years.

SIR JAMES PURVES-STEWART has been elected a foreign member of the Copenhagen Medical Society.

SIR ALFRED RICE-OXLEY, C.B.E., M.D., has, on the occasion of the visit of the French President to Great Britain, received from the French Government the decoration of the Legion of Honour, as an acknowledgement of the services he has rendered to France as a member of the British League of Help.

So many persons failed to obtain admission to the lecture on the eclipse, in aid of King Edward's Hospital Fund for London, given on May 27th by the President of the Astronomical Society (Rev. T. E. R. Phillips), that he has consented to repeat it, and in this second edition to deal with some additional points. The lecture will be given at the Polytechnic, Regent Street, on Monday, June 13th, at 8 p.m. Applications for tickets (reserved 4s., unreserved 1s. 6d.) may be made to the Polytechnic, 309, Regent Street, or to the Secretary of King Edward's Hospital Fund for London, 7, Walbrook, E.C.4, or payment may be made at the doors.

DR. J. WRIGHT MASON of Hull was entertained at a complimentary luncheon by the Association of Port Sanitary Authorities at the Charing Cross Hotel on May 27th, on the occasion of his retirement from the post of honorary secretary. The President, Councillor J. E. Jones (Bristol), Dr. W. M. Willoughby (Port of London), and other speakers referred in eulogistic terms to the services rendered by Dr. Mason during the thirty-nine years since he and others founded the association. Alderman W. Clough (River Tyne Port Sanitary Authority) then handed to Dr. Mason an inscribed silver salver and a cheque as a token of the esteem in which he is held by his colleagues in the work of port health administration. Dr. Mason, in the course of his reply, gave an interesting account of the beginnings of the association and of the useful work it has since accomplished. The salver, he said, would be regarded as a treasured possession by his family.

THE Hartlepool Town Council has conferred the honorary Freedom of the Borough upon Alderman William S. Gibb, M.B., C.M., J.P. of Hartlepool, in recognition of his long and eminent services to the borough. Dr. Gibb has served for twenty-seven years on the Town Council, and was Mayor of the borough for three years.

DR. T. N. KELYNACK, founder and for nearly seventeen years editor of *The Child*, is relinquishing the position of editor after the issue of the June number. This monthly periodical will continue to be published by Messrs. John Bale, Sons and Danielsson, Ltd., under the direction of an editorial board.

THE twenty-eighth annual meeting of the American Roentgen Ray Society will be held in Montreal on September 20th to 23rd, 1927, under the presidency of Dr. A. Howard Pirie, of Montreal. This is the first occasion on which the society has met outside the United States, and, to acknowledge the honour paid to a British radiologist by his election to the presidency of the society, a party of radiologists from this country will go to Montreal in September to take part in the proceedings. Dr. G. W. C. Kaye has been invited by the society to give the Caldwell Lecture.

AT a congress held recently at Marseilles (Journées médicales Marseillaises) a group of French and Spanish ophthalmologists celebrated the 182nd anniversary of the extraction of the lens for cataract by Jacques Daviel, which was performed at Provence in 1745.

THE Italian State Tourist Department is organizing a trip for medical practitioners to the spas and the climatic health resorts of Italy, from September 12th to 27th, on similar lines to those which have proved so successful in previous years. Among the places to be visited are Bagni di Montecatini, Bagni di Chianciano, Rome, Fiuggi, Sorrento, Capri, Naples, Messina, Taormina, and Palermo. At each resort a lecture will be given by a medical practitioner, and visits will be paid to the bathing establishments. Interpreters will accompany the party, who will be provided with the texts of the lectures in English, French, and German. The party will be limited to 150, and the charge is 1,700 lire (about £19). Further particulars may be obtained from the London office of the Italian State Railways and State Tourist Department, 16, Waterloo Place, Regent Street, S.W.1.

MESSRS. NEWTON AND WRIGHT, LTD., issue an abridged (1927) illustrated price list of apparatus for radiology, which deals with *x*-ray apparatus only. Coils, transformers, deep therapy apparatus are all illustrated and described, as is the accessory apparatus required to fit up a modern radiographical clinic. The catalogue is very well produced, and the illustrations are of excellent quality and sufficiently exhibit each portion of apparatus. It is interesting to see that prices have become stabilized, and the exact cost of everything is stated in plain figures. An associated firm, Newton and Company, undertake at 72, Wigmore Street all the photographic work required for the developing of *x*-ray films, printing, and making reductions.

THE following appointments have recently been made in the Spanish faculties of medicine: Dr. Enrique Suñer Ordoñez, professor of children's diseases at Madrid, in succession to the late Professor Pérez Valdés, Dr. Vicente Calvo Criado, professor of medical pathology at Seville, and Dr. Estanislao del Campo, professor of physiology at Madrid.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

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All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

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MEDICAL SECRETARY, *Mediscera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

INCOME TAX.

Motor Car Depreciation.

"H. A. M." claimed last year a deduction of £190 for replacement of car, but owing to the change from the three years' average he will only benefit in effect to the extent of one-third of that amount. The inspector of taxes has refused to make an allowance for depreciation.

*** It was decided in the case of the Caledonian Railway Company *v.* Banks that where the question of capital exhaustion was being dealt with by allowing the cost of renewals, no further allowance should be made for depreciation. As matters have turned out, it is, of course, unfortunate that our correspondent did not claim the depreciation allowance as from the first year it was obtainable; if he had done so the "renewal" allowance would have been modified and have become the statutory "obsolescence" allowance, which would not have barred the subsequent depreciation claim. In the circumstances we can only suggest that our correspondent should send to the Secretary, Inland Revenue, Somerset House, a full statement of the facts, asking that in the special circumstances the "renewal" claim should be disregarded (or looked upon as an obsolescence claim), or alternatively that he should be allowed to withdraw that claim, and should pay tax upon one-third of the £190, and thereby remove the barrier to the grant of the depreciation allowance.

Educational Fund.

"BURMAH" has formed an educational trust for the benefit of his children, providing for payments out of the funds to be made for their education, or, at the option of the trustees, to their parents for their benefit.

*** If the trust is revocable by the settlor without the consent of any other person (not being the settlor's wife), so that he can obtain for himself the beneficial enjoyment of the income, or if the period for which the income is payable to the children is less than their lives, the income must, in accordance with Sec. 20 of the Finance Act, 1922, be deemed to be the income of the settlor. In that case the income will not be regarded as the income of the children in their "own right," and "Burmah" can claim the usual statutory allowance. If the trust is not within the scope of Section 20, the amount of income expended on each child will be regarded as the income of that child (see Drummond *v.* Collins [1915], A. C. 1011), and "Burmah" can put in repayment claims thereon as natural guardian of the children. It would seem that in that case he would be unable to claim the allowance where the child's income exceeded £40, though the precise meaning attaching to the stipulation that the income shall be in the "own right" of the child may be open to doubt.

Special Repairs to House.

"H. G. P." had to purchase his house a year ago, and found it necessary to spend £140 in putting it into proper condition. His claim to deduct this amount has been refused on the ground that it was "capital" expenditure.

*** The claim which "H. G. P." can make is under Rule 8, No. v, Sch. A, of the Income Tax Act of 1918. He should ask the local inspector of taxes to supply him with the form of claim provided in connexion with that section, and will find the relevant clauses explained therein. It may be that there is some capital element in the total amount, representing an improvement as compared with the original property, but it seems clear that the great bulk of the expenditure is a proper subject of claim. The statutory allowance is based on an average of five years, but "H. G. P." can no doubt obtain approximate estimates of the expenditure of past years from the previous owner or his agent.

Expenses and "Earned" Relief.

"S. A. J." earned £248 last year and claimed to deduct £7 medical journals, £18 (being one-third) annual value of house, telephone £4, travelling £3, total £32, and earned income relief.

*** The assessor says the assessment for 1927–28 will be £222, apparently accepting all the deductions as claimed, except the one-third of the annual value, for which he substitutes £12. The earned income relief is not a deduction in arriving at the assessment, but is taken into account in computing the tax payable thereon. The only point which may be worth while pressing on the assessor's attention is that the deduction in respect of the use of the house should include something in respect of rates, light, and heat, and on that ground he might be urged to restore the £18 as claimed.

LETTERS, NOTES, ETC.

EARLY PARENTHOOD.

DR. LEBON, M.R.C.S. (Sarreguemines, Moselle), writes: As regards early parenthood, may I mention the following occurrence. On April 29th last I was called to a barge to see a girl who had been delivered of a child two days previously. She was 12 years old in January, and had been the victim of a rape. She had a big laceration of the perineum, which, owing to the difficulty of getting a doctor, had not been sutured. She had risen from bed on going to stool, and afterwards had a complete inversion of the uterus, which was lying in front of the vulva. I had her taken to hospital and tried in vain to reduce the inversion under anaesthesia. I renewed the attempt on the following morning, but still failed. As the girl was very anaemic and got fever, I had to give up all further manipulation. She left hospital on May 1st with her uterus still inverted, lying inside the vagina, as her parents, having in the meantime had their barge loaded, were returning to Paris, where I expect further treatment will take place. What struck me most in this case was the rapidity with which the lacerated perineum healed up without any attempt being made at restoration by suture.

PREVENTION OF TUBERCULOSIS IN GUERNSEY.

DR. H. D. BISHOP (M.O.H. for Guernsey), who recently drew attention to the very low incidence of bovine tuberculosis in that island (JOURNAL, April 16th, p. 749), now sends a comparison of the human and bovine statistics in 1910 to 1919 with those of 1924 to 1926, both years included. During the last three years 2,882 cattle were tested with tuberculin and 2 reacted, while in the previous period, out of 2,426 so tested officially, as many as 191 reacted. As regards human tuberculosis the total mortality in the first period was 478 (357 pulmonary and 121 other forms), and in the second period 123 (103 pulmonary and 20 other forms). Whereas in the earlier period the deaths of children under 5 numbered 41, representing 8.5 per cent. of the total tuberculosis mortality, in the last three years only 2 children died, the percentage having thus fallen to 1.7.

AN ALTERNATIVE TO CIRCUMCISION IN PHIMOSIS.

DR. D. R. LEWIS (Burma Medical Service) writes: As one who has performed over 500 operations for circumcision during the course of nine years, while attached to the out-patient department of the Rangoon General Hospital, Burma, I would like to point out that Dr. Whitfield's method, as mentioned on page 187 of the BRITISH MEDICAL JOURNAL of January 29th, cannot be recommended, for the following reasons, as an alternative to the usual method of circumcision: first, bleeding from the glans (a very vascular region) is apt to be troublesome, and it does not admit of the usual method of haemostasis, as it is a condition of general oozing; secondly, the narrow orifice of the prepuce cannot be readily retracted as far as the corona glandis without centripetal lacerations. When these heal there is bound to be a certain amount of constriction of the prepuce once again. From his description I understand that he relies on a good nurse to hold the baby, rather than employ an anaesthetic. This procedure certainly inflicts upon the baby unnecessary pain. It is much easier to give the baby a few whiffs of chloroform, slit the prepuce, retract it, and put a suture at each end of the cut margin—a very rapid and easy proceeding. If there is any objection to an anaesthetic the prepuce may be dilated daily, during the bath, first with a probe and then with a Spencer Wells artery forceps; the condition is generally relieved in a month's time. In the case of adults nothing gives better results than the orthodox method of circumcision.

THE STUDENT WHO SMOKES.

DR. FREDERICK BACK (Ryhope, Sunderland) writes: With reference to your commentary on Dr. Earp's "Study of the student who smokes" (May 28th, p. 973) and his hypotheses to explain why, of the students who fail to reach diploma standard, the heavy smokers are twice as numerous as the non-smokers, I think there is a tendency to confuse cause and effect. I suggest that it is not so much the fact that heavy smoking causes inefficiency as that inefficient people smoke excessively. For people with deficient mental energy and inability to concentrate it is so much easier to smoke a cigarette or chain of cigarettes than to do what is required—whether it be to make a decision, to perform some action, or to consider a subject—for one obtains the illusion you mention of doing something when, in reality, doing nothing.

MEDICAL GOLFERS.

THE medical profession has the distinction this year of supplying the amateur champion in Dr. William Tweddell of Stourbridge. Needless to say when the stage of the final round in the Amateur Championship was reached both players were very excellent golfers. It seems to be generally agreed that Dr. Tweddell owed his success, which in the end was rather hollow, to steadiness. In golf, as in many other of the affairs of men, the final event is determined rather by the faults of the rival than by the excellencies of the winner, though, as has been said, a high degree of excellence is essential. We may be allowed to congratulate Dr. Tweddell on his success.

But these high excellences would not be reached if there were not many nurseries for golfers. One of these is the Manchester and District Medical Golfers' Association, which, on May 25th, held its annual medal competition over eighteen holes. The challenge cup for the best net return was won by Dr. J. L. Bradley of Salford with a score of 71, playing from a handicap of 10. The Walter gold medal for the best scratch score was won by Dr. A. A. Smalley of Manchester with a round of 77; Dr. Bradley also secured the Walter silver medal presented for the best gross score by players with handicaps of 10 and upwards. Club prizes were won by Dr. J. Clark and Dr. J. Leech for the best net scores for holes 1 to 9 and holes 10 to 18 respectively; 122 players competed.

It will be remembered that three competitions will be played out during the Annual Meeting of the British Medical Association at Edinburgh: (1) for the Ulster and Childe Cups at Muirfield on July 21st, (2) for the Treasurer's Cup on Friday, July 22nd, at Gullane, and a ladies' competition on the morning of July 20th at Cammo.

JOHN JONES.

AN anonymous but sympathetic writer in the issue of the *Medical Journal and Record* for February 2nd gives an interesting account of Dr. John Jones, a pioneer of American surgery, who was born in Jamaica in 1729 and died in 1791. After completing his studies in Philadelphia he went to Europe, where he attended the lectures of John Hunter and Percival Pott in London and of Petit Le Cat and Le Dran in Paris; he spent some time also at Edinburgh and Leyden. On his return to America he settled in New York, where his professional attainments as a surgeon and obstetrician soon procured him an extensive practice. He was the first to perform the operation of lithotomy in that city, and his fame as an operator spread throughout the middle and eastern states of America. He served with distinction in the campaign against the French in 1758 and gained the gratitude of the wounded French commander, General D'Escaux, who had been taken prisoner, for his skilful attention. When the medical school in the College of New York was founded Dr. Jones was appointed professor of surgery. After a second trip to Europe, when he renewed his acquaintance with Hunter and Pott, he published, in 1775, his *Plain Remarks upon Wounds and Fractures*, which was the first work on surgery by an American author in the United States prior to 1800, and was used as a manual of the American army surgeons during the revolutionary war. On the evacuation of Philadelphia by the British troops in 1778 he removed to that city and remained there until his death thirteen years later. He was not only the intimate friend, but was also the physician of Benjamin Franklin, whom he attended in his last illness, which was caused by renal calculus complicated by pulmonary abscess. At the time of his death Jones was physician to the Pennsylvanian Hospital, president of the Humane Society, and vice-president of the Medical College, in the formation of which he had taken an active part.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 59, 60, 61, 64, 65, and 66 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 62 and 63.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *231*.

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